

Interim Evaluation Report for the ASTUTE (Advanced Sustainable Manufacturing Technologies) Project






Project Reference: P.1211ASTUTE-IR

Revision: 2.1 **Dated:** January 2013



Interim Evaluation Report for the ASTUTE (Advanced Sustainable Manufacturing Technologies) Project on behalf of:-

Aberystwyth University	
Bangor University	
Cardiff Metropolitan University	Cardiff Metropolitan University Prifysgol Fetropolitan Caerdydd 
Cardiff University	
Glyndŵr University	
Swansea Metropolitan University, University of Wales Trinity St David	 SWANSEA METROPOLITAN UNIVERSITY OF WALES TRINITY SAINT DAVID METROPOLITAN ABERTAWE PRIFYSGOL CYMRU Y DRINDOD DEWI SANT
Swansea University	 Swansea University Prifysgol Abertawe
University of Wales Newport	 University of Wales, Newport  Prifysgol Cymru, Casnewydd

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Executive Summary

This interim report for ASTUTE, comprises the findings of an external independent programme review undertaken in October and November 2012.

Abstract

The ASTUTE project achievement to date is an exemplar of successful industry/academia collaboration. This can be attributed to a number of key issues which it is recommended are adopted as best practice for further or future EU or government funded academia projects.

In summary these are:

- The marriage of academic expertise with full time commercial management;
- The use of clearly defined processes and pre-project evaluation and review to effectively set customer expectations and filtering out projects which are not suitable for ASTUTE support;
- Open cooperation between the partner institutions on the project, with all partner institutions confirming their commitment to supporting the project.

Numerous opportunities were identified, including support for businesses outside the convergence area, and becoming a flagship manufacturing support resource in Wales. In relation to longer term threats there is a concern that the ASTUTE project does not yet have any commitment from WEFO for a sustainable future.

In respect of this, it is imperative that the future for ASTUTE is determined at the earliest possible stage to avoid any loss of Welsh Government investment made in the infrastructure, processes, procedures, people, and commercial goodwill which has made this project successful.

To achieve this there needs to be a process to ensure a continuance of funding long before the project ends. It is important to recognise that this project will not survive a gap in funding. Key full time employees will be looking for secure employment positions 12 months before the programme end unless there is an assured future. It needs to be recognised that ASTUTE is not a project which can be managed solely by employees with academic tenure. The success of this project has been its unique combination of academic expertise and commercially focused employees.

Early funding commitment is needed to ensure the investment to date is protected, benefits of the programme continue and consistency of delivery retained. The ASTUTE management team should be taking action to secure this with immediate effect.

This interim report for ASTUTE, comprises the detailed findings of an external independent programme review undertaken in October and November 2012.

Evaluation Methodology

The results are based on an evaluation methodology which has assessed two elements of the project; Strategic and Operational. This was achieved through an exploratory review process of the following four aspects:-

- From the viewpoint of the principal partners, key leaders and managers of the ASTUTE project at each of the eight partner Universities;
- From the perspective of WEFO representatives supporting the ASTUTE project;
- From the perspective of the project officers delivering the support to the client Companies;
- From the perception of the customer (Companies that have received support from ASTUTE either in the form of an Assist - min 7 hours - or as a Collaborative R&D project).

In May 2011 and using in-house resources, ASTUTE initiated a baseline project review to identify any early issues and to act as a reference point for ongoing strategic planning, review and change. This review also had the objective of determining early perceptions of the project progress to date and recommendations for improvement. The interim evaluation provides a very different picture to the baseline review undertaken in May 2011. The ASTUTE project was, at that time, in its infancy of development and still determining its foundation for intervention and support. As with many projects of this ilk, only modest progress was made in the early stages whilst the delivery team were being established, and processes refined.

Findings

The assessment findings of the ASTUTE project performance at the time of this interim review contrasts with the findings in the baseline review project and highlights the real progress made in meeting the targets for both collaborative R&D projects and company Assists.

From the database of 152 companies provided, the following data has been collated during the evaluation process prior to developing this Interim assessment report of the aforementioned ASTUTE Programme elements.

70% of the 105 Companies Assisted via the ASTUTE programme were interviewed and responses evaluated. In addition 96% of the Companies with whom ASTUTE engaged in a Collaborative R&D project were interviewed at length to gauge perceptions, gather feedback and seek their opinions on sustainability of the programme through future developments. Detailed findings and both qualitative and quantitative research outputs can be found in the main body of the report and form the basis of the recommendations for the future.

As a starting point, an assessment was made of the areas of improvement identified in the baseline review. This was considered essential in ascertaining the level of

commitment to continuous improvement based on prior feedback. The methodology for the baseline review was revisited to ensure a consistency of data comparison.

The interviews for both R&D Collaborative Projects and Company Assists were undertaken either face to face, or via telephone communication by an experienced member of the research team. The information provided by ASTUTE allowed the researchers to create links with the company based on their knowledge of each organisations' prior engagement with the project.

In respect of customer engagement, the wider network of referrals and word of mouth is one of the most popular reported methods – whether via a project manager, a fellow ASTUTE assisted organisation, or a linked University alliance.

In terms of general project management, improvements have been implemented and respondents were very positive in relation to the initial contact and speed.

The customer facing aspect relating to speed of response, noted as an improvement area in the baseline review, has clearly been addressed. This aspect now scores highly in the eyes of the customers, scoring an average of 3.3 of a maximum possible of 4.0 (based on Collaborative R&D Project Client Companies – 44 in total). Additionally the feedback from customers relating to the ease of making contact with ASTUTE scores positively – scoring 3.5 out of 4.0 – again based on 44 respondents (Collaborative R&D Projects).

The achievement of these results and the feedback from participating companies has cited a number of contributory elements for this. The reasons for the high quality and achievement of swift and effective engagement has been attributed to the leadership, the management, the delivery staff, the network infrastructure, partner co-operation and the processes within ASTUTE.

In exploring the ASTUTE Programme support for the R&D Projects, the overall feedback was positive but did highlight some potential areas for further continuous improvement. Setting expectations was highlighted as an area which required address, although detailed analysis reveals that a number of the low scores against this area related to projects which were initiated in the early stages of ASTUTE.

It is a pattern that with any subsidised, funded or public sector support scheme – the expectation for delivery tends to be higher, despite a lesser degree of financial investment by the company. It is therefore even more important to ensure timescales, resources and expertise are accurately defined and expectations set within the boundaries of delivery.

It is important to note that despite this criticism, the assessment results identified that 41% of the Collaborative R&D Projects scored the overall experience with ASTUTE as excellent, with a further 44% scoring the overall experience as good.

Furthermore, a more detailed analysis of the collaborative R&D projects revealed 49% of the participants scoring the quality of the support as excellent with a further 39% scoring it as good with the balance of 12% scoring it as acceptable.

The knowledge and expertise of ASTUTE project staff was given a score of excellent by 51% of the participants and a further 42% giving a score of good, with just 7% scoring it as acceptable.

Not unexpectedly the area that showed the lowest level of satisfaction was the ease of dealing with the paperwork. Whilst its existence and importance was understood in relation to funding, this aspect of the project was often reported inconvenient and occasionally unnecessary where repetition of information was required.

The various reasons for maintaining contact with ASTUTE were all well indicated – identifying access to expertise and product/process development as two of the main attractions. The collaborative opportunities between academia and commercial enterprise are extensive and well respected amongst those interviewed. Each recognised the potential and access to exceptional resources within the partner institutions providing strong reasoning for maintaining contact for immediate, medium and long term projects. It would appear that the requirement for academic institutions to not only focus on commercial engagement opportunities, but react, behave and promote as though it were a more commercially driven operation, was prevalent.

Given this information, only 2 out of 44 respondents stated their perception of academia/industry collaboration had worsened – with only 1 of these less likely to engage in collaboration in the future. 45% of respondents reported an unchanged view and 50% reporting an enhanced perception of industry/academic collaboration as a result of their ASTUTE contact.

The impact of ASTUTE involvement on organisations engaging in Collaborative R&D projects was explored further, with feedback including a proposed future £100m increase in level of business, increased employment levels between 1 and 50, increased investment levels of £20m, launch of new processes/procedures as well as links to other businesses in the convergence area. Over 86% of respondents reported the benefits to be either medium or long term to the organisation, with only 5% reporting no benefits.

The strengths and weaknesses of ASTUTE, the leadership, the management and the team were all explored to ascertain areas for development and issues which could be resolved at this interim stage of the project. Many reported difficulties in relation to bureaucracy, paperwork and delays experienced throughout various stages of the project. However, the overwhelming positive feedback in relation to the teams, the representatives, the expertise and availability of resources presented a highly respectable view of ASTUTE and will provide the management with a bank of unique selling points and strengths to actively promote and capitalise upon during future contact with new and existing clients.

The general perception of organisations continued engagement with ASTUTE was also encouraging – their gratitude and appreciation in relation to the availability of resources was evident and opportunities presented by the University partnership were plentiful. A

better understanding or knowledge dissemination in relation to the role and expertise of each partner may be better promoted – and information shared more freely between the institutions to maximise the benefits to the end user.

Many participants highlighted their interest in maintaining links with ASTUTE for information purposes as well as networking and continued access to resources which would otherwise be beyond their scope. An overwhelming majority also expressed an interest in being informed when the report is published – highlighting a keen insight into the feedback gathered and proposed objectives to maximise the value of the project.

Full details of the 8 areas evaluated may be found in section 3 of this report.

Evaluation against aims and objectives.

In assessing to what level the project is meeting its original aims and objectives (as defined in the ASTUTE business plan and included as Appendix C), evidence collected during the course of this interim evaluation confirms that this defined aim is being achieved. The focus of the project has been on the application of advanced technologies to introduce sustainable solutions within manufacturing industry in the convergence region. Knowledge, skills and expertise of academic staff and resources are being promoted to encourage engagement with commercial enterprise for strong dissemination of information, transfer of knowledge and participation in collaborative opportunities for mutual benefit. The partnership of Universities utilising their respective engineering expertise has developed and strengthened as the project has progressed. Active promotion of sustainable practices and a raised environmental profile has also formed a strong element of the ASTUTE programme – features which are recognised and appreciated as well as accepted and integrated.

Additionally, measured feedback from the participant companies highlights the defined objectives relating to product output, reduction in resources and minimisation of waste are all inherent within the solutions supported and implemented by ASTUTE.

In summary, from the evidence collected during the evaluation it can be confirmed that ASTUTE is achieving its original aims and objectives.

In respect of the outputs and results achieved to date, analysis of SME versus larger company interactions revealed that 112 of the 117 participating companies are SMEs with 5 being larger companies. Additionally however 19 of the participating companies classified as SMEs employ between 120 and 220 persons. It should also be noted that all the larger company interventions are classed as Collaborative R&D Projects.

The ASTUTE support delivered has harvested a number of specific examples of how it is contributing to the cross cutting themes, and integrates the necessary processes to provide participating companies with action plans for improvement via implementation.

Feedback gained from participating companies relating to the quality of collaboration and future growth potential reveals the following pattern:

As a rule the Assisted companies understand that the (Assist) intervention is an exploratory one. This is indicative of the improvement achieved by ASTUTE latterly in setting the customer expectations correctly. It is also acknowledged that the level of support (min 7 hours) would not usually lead to an increase in employment or impact in any measurable way on the future growth potential of the company. Analysis of the results confirms this and shows that the main source of employment and future growth potential has arisen, and will arise from, the collaborative R&D Projects undertaken by ASTUTE.

Details regarding this observation may be seen in Section 3.3 of this report.

In relation to the appropriateness of the project indicators and the quality of the indicators achieved to date in line with the aims and objectives of the project and ERDF definitions, the indicators defined for ASTUTE are considered relevant and appropriate, given that the intervention is seeking to achieve measurable impact within the Welsh economy. Discussion with the partners reveals a high level of awareness of the indicators and targets along with a clear level of focus on these.

It is interesting to note that the partnership arrangement has had the effect of making each of the educational establishments more determined to meet (and beat) its targets than it would be if the project was based at one institution. This determination to achieve and make a contribution to the overall targets strongly suggests that the indicators for ASTUTE will be achieved and in many instances exceeded.

An assessment of how ASTUTE has stimulated ideas within companies, and the extent to which these have developed into collaborative projects reveals that 52 of the 60 clients have experienced changes or improvements as a result of engaging with the ASTUTE support.

This has been corroborated by feedback from the participant companies engaging in both Assists and Projects, with 95 of the 117 companies advising that their overall experience with ASTUTE was either good or excellent.

In addition the reasons for engagement with ASTUTE revealed 80 instances were cited of New Product/Process development and a further 57 indicating research expertise. In respect of current and future need both these areas were cited by companies as the being their current priorities and future needs.

It can be concluded, therefore that the seeding of ideas during the Assist has been a fundamental source of collaborative R&D projects and remains as the conduit for engagement and delivering impact.

In the assessment of how ASTUTE has developed collaborative working between the university partners in order to meet the needs of businesses, the evaluation reveals that there is an open relationship between the university partners, with each eager to prove their contribution to ASTUTE. This is helping to achieve a collaborative and non competitive ethos within ASTUTE with a focus on achievement.

In the assessment of how effectively ASTUTE is integrated with other business support groups, including referrals to other structural funds projects, analysis revealed a relatively low level of referral to other business support groups. However, it is important to recognise these companies may have already been working with support services, hence no requirement to signpost further. Indeed, analysis of the company responses indicated that 48% are already working with other support groups. Details in Section 3.3.1 lists the support groups, Universities or Welsh Government programmes with whom the organisations are engaging.

In the evaluation of how well ASTUTE is addressing the current needs of industry compared with those defined at the outset, results clearly reveal unchanging priorities and needs within industry. The following table contains information extracted from the company feedback as detailed in Section 3.3 of this report.

	New Product/Process development	Access to technical expertise
Reason for engagement	80	57
Current business needs	84	57
Company priorities	75	44
Future requirements	72	58

These represent the two highest scoring responses in each instance:-

- New Product/Process development
- Access to technical expertise

and illustrate that the priorities and need is essentially unchanged from the start of the ASTUTE project through current business needs and are still the highest scoring needs in respect of **future requirements**.

In evaluating any likely changes in the market need during the remainder of the project, none of the data collected from participating companies in this interim evaluation, as seen in the previous table, give any indication that the priorities and need of the market is changing significantly.

The pressures on the economy, public purse and individual expectations will, however, inevitably place greater emphasis on performance and a focus on commercially operating a public sector support to align with private sector enterprise demands.

In evaluating the provision of expertise offered by each partner university against the needs identified by the enterprises assisted and R&D collaborative projects initiated to date, it can be seen that in the formative stages of the ASTUTE project, it is clear that each of the partner universities identified prospective Assists and Projects with a less discerning eye than is currently demonstrated. As ASTUTE has progressed, the partners have become more discerning, increasingly collaborative and cooperative in

their approach. At this mid point in the project there are improved referral processes and more open collaboration.

It is noted that considerable attention has been paid to addressing the areas of improvement identified in the baseline review – highlighting the benefit of research and data capture regarding support schemes at baseline, mid term and final stage.

As a final conclusion to the programme performance to date, the successes should be used as a platform to further develop and enhance the supports and relationships with participant companies. There are inevitably areas for further performance improvement in both strategic and operational areas which have been highlighted in Section 4 of this report.

Strengths and Weaknesses. The concept and strategic vision of ASTUTE are both seen as strengths. There are, however a number of aspects which could be developed and which will further enhance ASTUTE. Further detail is included in Section 4.2 of this report.

Vision and Strategy - Agree and document an unequivocal vision and strategy for the future. This should be agreed by all partners and distributed to all stakeholders so they fully support and buy in to the stated goals.

Diversification Opportunity - In the longer term, ASTUTE could consider taking a role as a Portal for all Academic/Industry supports in Wales. No such referral body of Portal exists in Wales currently and there is still an unclear vision in the mind of customers as to the academic/industry supports available and such a Portal would serve to address this shortcoming in Wales.

Re-profiling the ASTUTE project - Unsurprisingly, the measurable impacts from ASTUTE have arisen, almost without exception, from Collaborative R&D projects rather than from Assists. The opportunity in respect of this is to revisit the targets defined for Assists and Projects and to increase the number of Projects and decrease the number of Assists.

Additional collaborative activities - There is an opportunity for ASTUTE partners to collaborate more closely with some of the existing funded projects within HE institutions in Wales and Welsh Government. Both aforementioned establishments/organisations have a limited understanding of the complete suite of supports available and frequently a misunderstanding of the resource provided by each project and initiative.

Marketing - The marketing of ASTUTE is now seen by all stakeholders as becoming more effective and active over the past 12 months. There is still however, an uncertainty in the mind of some customers that the source of the support is ASTUTE. Additionally, there is a need to reinforce and remind key persons at all levels of the project of the documented ASTUTE marketing strategy that exists for the programme and the messages promoted.

An additional process that could now be included in the marketing strategy is the proactive requests for referrals from satisfied participant companies. Additionally, it is suggested that, (with approval from individual companies) some of the many positive

comments given by companies during the interim evaluation process could be used as testimonials/case studies and promoted in ASTUTE literature to highlight the positive outputs and achievements of the support provided.

Communication - Whilst communication was generally seen as being clear and effective, there are still opportunities for improvement between project officers. It is suggested that a more open and consultative approach be adopted with Partners, Project Officers and WEFO.

Research papers - The ASTUTE project should now be considering opportunities for Research Papers and Case Studies from some of its successful projects. This inevitably provides value to those considering engaging in the ASTUTE support, and enhances credibility of the scheme in relation to achievement of outputs.

Company Engagement - It is recommended that ASTUTE ensure that the selective engagement processes that have latterly proved effective in evaluating and validating the Assist or Project support request are embedded within the procedures at all partnering institutions.

Follow up support - Introduce a more proactive follow up process and integrate review meetings with companies at defined periods after Project completion to ensure impacts are quantified and captured. This gives further opportunity to obtain feedback, respond to requests and retain a strong ongoing loyal relationship with that organisation. This follow up would also initiate the promotion of good-news stories, testimonials and case studies.

Planning for the future - The planning for ASTUTE 2 should be undertaken at the earliest possible stage to ensure that a plan is in place which enables continuity and provision of assurance to key staff. There is a track record of projects and initiatives in Wales (not just HE projects) which end, fragment and are then re-invented and re-launched after a prolonged review which concludes that they were successful. This re-invention does not make best use of public funds and inevitably the loss in confidence resulting from the gap in service and support provision takes considerable time to repair.

Whilst ASTUTE needs to be bold in their ambitions and committed in their determination to develop and improve academic/industry and inter-partner collaboration, WEFO need to be equally committed in recognising the successes and achievement to date and plan accordingly in advance to support this successful programme without a “break in transmission”.

Partner involvement - With the amalgamation of Newport University and the University of Glamorgan, it should be incumbent upon both Swansea, as the lead partner, and Newport, as a successful smaller partner, to engage the University of Glamorgan to join the collaboration at the next stage.

Manufacturing Centre - With the advent of the new Swansea campus, there is a one off opportunity to establish a Centre for Manufacturing Support in Wales and with the country lagging behind the rest of the UK in its manufacturing output, a facility with a dedicated building and resources would be a clear statement of Wales’ ambition to bridge this gap.

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Introduction

1.1 Background to the Project

ASTUTE Project – Advanced Sustainable Manufacturing Technologies.

The objective of the ASTUTE project is to enable the aerospace, automotive and high technology manufacturing industries in West Wales and the Valleys to grow by adopting more advanced technologies and, at the same time, improve sustainability by reducing environmental impact etc. Led by Swansea University, the strong collaboration brings together the universities of Aberystwyth, Bangor, Cardiff, Glyndŵr, Swansea Metropolitan University of Wales Trinity St David, Cardiff Metropolitan and the University of Wales, Newport, providing the ASTUTE initiative with a range of skills across a broad spectrum of engineering and science, thus able to address many of the technical challenges facing Welsh companies.

It is important to note that, at the formative stage of this partnership, the University of Glamorgan were invited to join under the same agreement and conditions (targets and impacts) as all other partners. After initially indicating acceptance, the University of Glamorgan subsequently chose to withdraw their support or involvement. Subsequently, ASTUTE re-invited the University of Glamorgan to join the ASTUTE activity in optoelectronics, which Glamorgan declined.

ASTUTE has the defined aim of helping manufacturing industry face the challenges of the 21st century and accordingly will assist¹ a total of 350 enterprises and support 40 collaborative R&D projects². This is to be achieved through a partnership of eight Welsh Universities that will harness the engineering expertise within them for the benefit of the economic prosperity of the Convergence Region.

ASTUTE has been made possible with £14m from the Convergence European Regional Development Fund through the Welsh Government with an additional £13m funding from the partner higher education institutions. It is expected to induce an investment of £4m and launch 120 new or improved products, processes or services.

It is estimated that the Welsh manufacturing sector contributes around £32 billion to the economy and employs circa 193,000 people. ASTUTE aims to engage with as many companies as possible, particularly in the high value sectors of aerospace, automotive and electronic engineering to identify ways of improving their competitiveness and creating new jobs.

¹ Throughout this report the term Assist will be used as a differentiator to indicate companies that have received a lower level of support (min 7 hours) as compared to:-

² Collaborative R&D projects that have received significantly more time. Throughout this report these will be referred to as Projects

1.2 Interim Evaluation Aim

The aim of the evaluation is to provide the sponsors with information of the project impact and an assessment of whether ASTUTE is achieving its objectives. It is also to be used to understand the requirements of the market place and to provide evidence which may be used to bid for future funding.

1.3 Baseline Review Findings

In May 2011, under their own initiative, ASTUTE commission an independent externally led baseline project review to identify any early issues and to act as a reference point for ongoing strategic planning, review and change. This review also had the objective of determining early perceptions of the project progress to date. The baseline review document was designed to assess the level of engagement, type of collaboration and level of impact resulting from the relationship between industry in Wales and the ASTUTE project at Swansea University.

Positive comments extracted from the baseline review included praise regarding the overall quality of both the ASTUTE initiative and team, however, there were some less positive reports relating to the slow overall pace of activity. Suggestions to enhance communication were also noted along with progress reporting to ensure all clients are kept fully aware in relation to the developments of projects. In conclusion to the programme review, it was suggested that the successes of the programme and deliverables should be used as a platform to further develop and enhance the supports and relationships with participant companies. Proposals regarding enhancing operations were provided in the original baseline review, and will be taken into account when providing feedback and recommendations from the future following the Interim Review.

1.4 Interim Evaluation Objectives

The CIOTEK objectives for compiling this interim evaluation review report have been:-

- Undertake face to face/telephone interviews with 100% of the Research and Development Projects.
- Undertake face to face/telephone interviews with 70% of the Assist Projects.
- Undertake face to face/telephone interviews with the ASTUTE principals at each of the partner Universities.
- Undertake face to face/telephone interviews with key stakeholders within the WEFO.
- Undertake face to face/telephone interviews with the ASTUTE project officers with responsibility for collaborative R&D projects.
- To collate all evidence and feedback gathered from respondents.
- Formulate a report summarising the findings of the research and include recommendations based on feedback provided.
- Submit the report for the consideration of the ASTUTE project team at Swansea University.
- Submit the report for the consideration of the key stakeholders within the WEFO.

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The Project

2.1 Project Plan of Action

The plan of action for CIOTEK Ltd to execute the Interim Review was designed in agreement with Swansea University ASTUTE team and WEFO. The focus was to provide an accurate and concise progress report to the team and funding body, to illustrate the impact that the ASTUTE project had and developments it was facilitating following 18 months since the baseline review.

2.2 Evaluation Methodology

The evaluation methodology adopted assessed the project from two elements; Strategic and Operational. This was achieved through the following three aspects:-

- From the viewpoint of the principal partners and key leaders and managers of the ASTUTE project at each of the eight partner Universities.
- From the perspective of the project officers delivering the support direct to the client SMEs as representatives of ASTUTE.
- From the customers perception. This comprised organisations that have received support from ASTUTE either in the form of an Assist (min 7 hours) or as a Collaborative R&D project.

2.3 Evaluation Process

In support of the method of evaluation three discrete questionnaire processes were designed and agreed with the ASTUTE evaluation management team.

Key Stakeholders:

The first of these assessed the clarity of vision; ASTUTE objectives; partner objectives; the level of understanding by the principals of ASTUTE; the perceived Strengths; Weaknesses; Opportunities for and Threats to ASTUTE.

Project Officers:

The second questionnaire assessed the relative success of the project from the perspective of the project officer and gathered feedback regarding how each project had developed, whether it had exceeded or fallen short of expectations and reasons for any problems experienced during the client/ASTUTE relationship.

Company Review:

The third was an evaluation from the perspective of the company receiving support. In this report the term company has been used for both SME and larger companies engaged. This questionnaire was designed to solicit appropriate responses in the 7 key areas of the project, with a final section inviting comments relevant to the overall project and proposed future activity of the initiative. This questionnaire was distributed to the ASTUTE project team prior to engaging in research. As a result of consultation, minor changes and additions were incorporated in line with suggestions from the team. This company questionnaire was then used by members of the CIOTEK evaluation team for both face to face and telephone interviews. This process was adopted to standardise responses, whilst allowing for more exploratory qualitative feedback to be obtained.

This third interim review document was designed to gain the company's views on the engagement process, the quality of support, and level of impact resulting.

Using this questionnaire, CIOTEK made direct contact with the principals or organisation representatives of 117 out of the 155 companies assisted by ASTUTE. The evaluation achieved feedback from 46 organisations that responded as a collaborative R&D projects, plus 71 organisations responding as Assists. The 46 Project respondents comprised 46 organisations from the ASTUTE database of participating companies that have signed and completed Project documentation.

The CIOTEK Ltd team also interviewed nominated project officers at each of the ASTUTE partner academic institutions to gauge their feedback in relation to how the programme has developed and supported industry/commerce in Wales.

It is important to note that a number of organisations have been involved in more than one project or an assist and a project. This evaluation has not attempted to discern between these individual projects but has instead elected to gain an overall perspective of the value of the ASTUTE intervention with the participant.

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Evaluation Findings

The outcome and findings from the three evaluation elements have been provided below in three subsections:-

Subsection 3.1 provides the findings of the Strategic and Operational assessment from the viewpoint of key stakeholders including the principal partners and key leaders and managers of the ASTUTE project at each of the eight partner Universities and representatives from WEFO.

Subsection 3.2 provides views and opinions relating to the contribution made by ASTUTE and the relative success of each of the collaborative R&D projects from the perspective of the project officer.

Subsection 3.3 provides the findings from the evaluation and feedback from participant companies receiving support under the ASTUTE programme.

3.1 Key Stakeholder findings.

As the first element of the evaluation process, face to face and telephone interviews were conducted with key stakeholders at each of the partner institutions and WEFO representatives with an interest in the project. The process asked for confirmation of objectives and targets (Partner Universities), views and opinions on key elements of the ASTUTE programme and the completion of a SWOT analysis (all stakeholders). This served to highlight the perceived Strengths and Weaknesses of ASTUTE and identification of the Opportunities for, and Threats to ASTUTE. The findings from these interviews have been collated into the section below.

Stakeholder interview and input from	Position	Institution
Gavin Cawood	ASTUTE Lead P.I. (Principal Investigator) Operations director PDR	Cardiff Metropolitan University
Professor Mark Cross	ASTUTE Project Chairman	Swansea University
Dr Jonathan Deacon	ASTUTE Lead P.I. Reader in Entrepreneurship & Marketing.	Newport University
Professor Kelvin Donne	ASTUTE Lead P.I. Dean, Faculty of Applied Design & Engineering.	Swansea Metropolitan
Professor David Gethin	ASTUTE Deputy Director	Swansea University
Mr Andrew Hopkins	ASTUTE Technical Delivery Manager.	Cardiff University
Dr Jonathan James	Swansea Technical Coordination Manager.	Swansea University
Professor Mohamed Naim	ASTUTE Lead P.I. Head of Logistics and Operations Management Section Cardiff Business School.	Cardiff University
Professor Chris Price	ASTUTE Lead P.I.	Aberystwyth University
Professor Hans Sienz	ASTUTE Project Director. ASTUTE PI, Research Theme Leader Aerospace and Manufacturing, Aerospace Engineering Portfolio Director.	Swansea University
Professor Alan Shore	ASTUTE Lead P.I. CoPAS Director of Research, Chair of the Photonics Academy for Wales.	Bangor University
Dr Brett Suddell	ASTUTE Project Manager.	Swansea University
Professor Richard Day	ASTUTE Lead P.I. University of Wales Professor of Composites Engineering. Academic Leader, Mechanical, Aeronautical and Electrical Engineering. Associate Director for the Graduate School responsible for the Institute for Arts, Science & Technology.	Glyndwr University
Mark Williams		WEFO #
Keith Parsons		WEFO #
Geraint Green		WEFO #
Richard Chivers		WEFO #
# Comments and scores from WEFO were taken jointly rather than individually		

Are there any barriers in the way of you meeting your ASTUTE targets?

In total 17 observations were made as to prospective barriers to meeting the ASTUTE targets, a number of which followed similar lines. The numbers in brackets following the comment indicates the number of times the point was made by different contributors. The following is a summation of the main points:-

- Targets for job creation and investment induced are difficult to quantify when companies are reluctant or unable to allocate these credits. (2)
- WEFO threat of de-committing funding is a barrier to ASTUTE - without agreed resource, agreed targets may not be met. (2)
- With Universities traditionally being research and teaching based, there are still elements of resistance to activities that are related to engaging and working with businesses. (2)
- There needs to be a “buy-in” from academics and recognition that applied research is a reality, contributing to case studies, publications and impact.
- It has taken longer than expected to fully engage with companies.
- Inhibitors to meeting ASTUTE targets are the economic downturn and internal University systems.

What barriers have you encountered in working with SMEs?

In total 15 comments were received as potential barriers encountered. Again there was a commonality amongst many of these. The numbers in brackets following the comment indicates the number of time the point was made by different contributors. The main points detailed below:-

- SMEs often do not have the time to focus on the requirements or to find enough information to be able to make a judgement as to whether the academic relationship is a good opportunity. (5)
- The initial obstacle is companies’ perception of academia as being unaware of commercial issues. Once this is overcome, the problem disappears. (3)
- Amount of paperwork associated with Research and Development projects can present a barrier – along with the fact that WEFO guidelines in relation to the level of detail required is not always very clear. (2)
- SMEs are very protective of their business, and constantly query to whom the partners are reporting. There is an element of distrust in order to avoid exposure and put ones business in a vulnerable position, plus an element of protecting financial information. Some SMEs are apprehensive in relation to what could be achieved with academic collaboration and do not understand the value that ASTUTE could bring through knowledge transfer.
- Early incorrect perceptions of ASTUTE as a source of monies and funding mechanism by some companies can present a barrier.

What marketing processes do you use to engage SMEs?

In total 16 comments were recorded related to marketing processes engaged. These have been detailed below:-

- Direct contact with companies is the main process utilised to promote ASTUTE. (3)
- New marketing materials and active networking with SMEs and Welsh Government Regional Managers are some of the marketing processes used to engage SMEs. In addition, ASTUTE now have new folders and ASTUTE USB sticks, which have proved to be very popular.
- Had a person looking at manufacturing/mail shots, and latterly a software workshop.
- Direct marketing is initiated based on long term established relationships.
- Networking.
- Cross collaboration with other projects.
- Social Media.
- The ASTUTE Programme is promoted via Relationship Marketing and via an established database of companies in the convergence region. (4)
- Links with other partners and programmes – using their networks and contacts. (2)
- Referrals such as Forums and introductions from others. We are now also receiving referrals from SMEs.

The following section relates to a rating of 4 key elements of the lead partner of the ASTUTE project (Swansea). These four elements of Management, Communication, Paperwork Processes and Marketing have been detailed below in 4 Tables. The responses relate to each of the key stakeholders interviewed in the evaluation process.

Management		
	Number	Comments
1 = Poor	0	
2 = Acceptable	0	
3 = Good	6	Some processes are long winded. Meeting dates should be better coordinated. The management of ASTUTE in Swansea is better than any other project I have been involved with.
4 = Excellent	8	Took time to establish processes but there is an excellent team and exceptional information collection.

Communication		
	Number	Comments
1 = Poor		
2 = Acceptable	2	Lack of consistency. Some issues come as a surprise. Don't see much ongoing communication to SMEs.
3 = Good	8	Some valuable referrals. This could be improved in relation to communication with Project Officers. Communication is good with WEFO and smaller partners. Communication varies between project, internals, assists and partners. Communication could be improved between partners.
4 = Excellent	4	All partners kept informed at all points of the project to seek their views.

Paperwork Processes		
	Number	Comments
1=poor	0	
2=Acceptable	5	Onerous paperwork and it is not always up to date. Opportunity to streamline the processes, too many reports. Financial reviews are required at short notice – documentation could be condensed. Paperwork made as painless as possible by project officers & management by excellent administrative and support staff.
3 = Good	5	Internal documentation should be reviewed and improved, WEFO documentation is heavy.
4 = Excellent	4	Slight overkill in paperwork but well managed- refined processes with WEFO requirement constraints.

Marketing		
	Number	Comments
1 = Poor	1	Glossy brochures and banners are not appropriate.
2 = Acceptable	5	Generic website. Few case studies. Website is about ASTUTE whereas it could be about the companies themselves. Early engagements were achieved at breakfast events. Keynote larger events.
3 = Good	7	The Marketing is improving. The website could be streamlined, needs to be more proactive. Promotional activities were a little slow off the mark but getting better all the time Marketing has improved but could still be better.
4 = Excellent	1	

SWOT. What do you see as the main

Strengths of ASTUTE

Please note – where similar comments have been received, these have been collated with the number of similar comments in brackets e.g. Skills of the team & resources. (4)

- ASTUTE support is not restricted by location of the partner University.
- Breadth of skills base (Wales wide project in Universities) and expertise. (2)
- Ability to offer a wider view.
- Companies need make no payment to ASTUTE for collaborative projects.
- Access to facilities and equipment.
- Well resourced operation. (2)
- Highly skilled people. (6)
- Strong branding.
- Willingness to refer companies to other projects.
- Level of understanding of the expertise/ supports of ASTUTE and partner institutions.
- Administration and management processes. (3)
- Cross Cutting Themes and Supports.
- Documented and proven operations manual.
- Meetings with management groups.
- Support to the partners, including training.
- Help available to SMEs to do more than they could have themselves.
- Management and leadership.
- Clear vision for the future.
- Networking (platform for the future).
- Changing perspective of academia in the eyes of industry.
- It is a truly collaborative framework of participation (a first for Wales).
- Traditional research institutions and post 92 institutions have achieved a mutual respect through ASTUTE collaboration.
- Potential to take businesses beyond the original aspects specified and to stimulate growth within the business.
- The Aspirations of the project are right – positive development plans, key objectives – working towards positive goals. (4)
- Quality delivery of the programme. (2)
- Collaboration with industry is a challenge and it a display of the strength of ASTUTE that achievements are being made.
- Established base of companies.
- Breadth of SME engagement.
- Computation skill set.
- Partners bought into the project at the earliest planning stage.
- Co-operation between partners – support for partners to realise ambitions. (4)
- Two way communication.
- Processes for collaborative agreement in place.
- ASTUTE does not pretend to be something it is not.
- Able to show and demonstrate new technology.
- The concept of ASTUTE.
- Collaborative and strategic view.
- Currently meeting project targets.
- Project management – Procedures and processes.
- Involvement of stakeholders.

Weaknesses of ASTUTE

- Free service, and so not always perceived as of value.
- Restricted to convergence. (3)
- Perceived slowness of project by industry.
- Industry sectors supported; focusing on specific sectors which is restrictive.
- Speed of response, particularly for less resourced partners.
- Academic establishments not understanding the benefit of ASTUTE.
- Recruitment processes can take 6 months.
- Payment processes – it can take up to 2 months after the work is done to receive the payment.
- More proactive marketing in the early days.
- Insufficient partner collaboration.
- Requirement to focus on Assists (in order to meet targets).
- Could involve more young academic staff.
- With additional funding partners could have delivered a lot more collaborative R&D and Assists.
- Some partners pick low hanging fruit, and should focus on larger businesses as opposed to the easy option. This would provide more widespread benefits.
- Some familiar names are repeatedly involved in ASTUTE, which may weaken the benefits of the programme.
- Resources are not always maximised by other partners of ASTUTE.
- Geographical Spread – non convergence is an issue while utilising the funding elements of ASTUTE.
- There is a demand for additional support in marketing and market development that ASTUTE don't currently offer.
- Onerous paperwork for companies & signature requirements. (2)
- Speed of response (particularly for SMEs).
- Complex collaborations between companies.
- Bias towards computational projects.
- No knowledge of the succession plan for ASTUTE.
- Currently no legacy to ASTUTE.
- Marketing to the Welsh Government.
- WG Call centre are possibly unaware of the ASTUTE programme and benefits.
- Not all smaller partners are fully embracing ownership.
- No ESF component for training.
- Difficulty of collaboration with smaller partners.
- Low level of funding for smaller partners.
- Not working in partnership enough.
- The project got off to a slow start.
- Over optimistic profiles for some targets.
- Telling WEFO what they think WEFO want to hear.
- Key University (Glamorgan) did not join ASTUTE*.
- Not being imaginative and just employing more people to use up the funds.
- Under spend with no revised view of a changed situation.

* It should be noted that University of Glamorgan were invited to join ASTUTE and also the Optoelectronics proposal but declined to join on both occasions.

Opportunities for ASTUTE

- Important for Welsh Government officers to become more engaged so that they understand ASTUTE and can actively promote the benefits.
- Improving the decision making process by Welsh Government.
- Targeting growth sectors more proactively.
- Overcoming Barriers to academia/business collaboration.
- Re-profiling of ASTUTE to address other areas and sectors. (3)
- Enhance the competitiveness of the programme against other options.
- Cluster Themes – e.g. Supply chain.
- ASTUTE 2 – Evolution on the planned second campus of Swansea University. (2)
- A physical Welsh Manufacturing Centre.
- Explore further involvement with companies in the competitiveness regions.
- Greater collaboration between partners to support projects for maximum benefit. (5)
- Need for higher levels of automation and ICT in Welsh Companies.
- SME collaboration, for instance companies locating equipment at ASTUTE.
- Need for ongoing investment and support to raise the profile of ASTUTE in Wales.
- High quality industry and academic research.
- Convince young academics of the real benefits to involvement. (2)
- To develop meaningful long term industry and academic relationships for Research and Development which will deliver long term benefits to Wales.
- To build on the established partnership and use the strengths of the smaller partners.
- Explore collaboration with UK/Global dimension such as the South West Aerospace sector as well as other future technologies (energy efficiencies). (4)
- To maintain the strength in numbers (Group of 8).
- Enhance skills of the team for ongoing benefits to programme/project recipients – as well as develop the skills of those within the organisations that are being supported.
- Huge opportunity to develop enterprises and spin-out business from academia – expand the targets. (2)
- Standard filtering system to deal with one man bands.
- Prepare a portfolio of expertise to engage companies.
- Plan early for the continuity of ASTUTE – it will be too late to review the success at the end of the project.
- To up skill capability within Wales. (2)
- Succession funding (FP7). (2)
- Enhanced marketing: promotion in trade Journals, sponsorship.
- Commercialisation of ASTUTE in the longer term.
- ASTUTE 2 – Competitiveness bid. (2)
- Engineering Doctorate within the local engineering scheme.
- Excellence in Engineering in lesser developed regions.
- Forum to bid for additional funding outside the WG with bodies such as the Research Councils.
- Different ways of supporting organisations – more innovative interaction.
- Link to industry sector specialist groups.
- Collaborative working being demonstrated.
- 2014-2020 Funding for WEFO.
- Demonstrating that the concept really works.
- Showing flexibility and adaptability.
- Meeting key targets (investment and jobs).
- Ensuring that the technology becomes embedded within the companies (Technology Transfer Officers).

Threats to ASTUTE

- Wales remaining as grant dependant.
- Not maintaining continuity to ASTUTE – Ensuring momentum is retained. (4)
- Decline of manufacture and fewer start ups in manufacturing.
- Slow decision making from WEFO. (2)
- Slow internal resource allocation and processes. (ASTUTE issue)
- Lack of future funding / Gap between ASTUTE 1 and ASTUTE 2. (11)
- A4B – approving projects without considering what is in place and diluting the benefits of projects by trying to distribute funds equally rather than focusing on expertise and what already in place. (Action 4 Business issue)
- Losing key staff. (5)
- Need for ongoing investment in leading edge equipment for Research and Development.
- Other consortia across the UK trying to offer similar services. (6)
- A major threat to ASTUTE is inherent within academia – losing focus due to bureaucracy and university structures.
- Economic and political framework.
- Changing WEFO strategy.
- Universities are currently not able to effectively support areas such as personnel, purchasing and marketing, in particular for a project the size of ASTUTE. It should be noted however that they are learning and improving.
- Ensuring expectations are set correctly by external bodies. This otherwise will lead to disappointed companies.
- Companies with a strong voice that are trying to do things that should not be done. Damage without reason.
- Fragmented decision making in Wales and no continuity. (3)
- Not showing value for money. (2)
- Make sure ASTUTE is collaborating with industry on a wider scale – not just replacing commercial services.
- Would like a larger share and involvement.
- Have more to offer to ASTUTE – management of design and network of agencies.
- Not working together as partners.
- Displacement or duplication of services available in the private sector.
- Shift in EU policy.
- Exchange rate – Euro.
- Missing targets.
- Not being selective with sectors.

3.2 Project Officer Findings.

As the second element of the evaluation process, face to face and telephone interviews were conducted with nominated Project Officers responsible for the delivery of, or management of collaborative R&D projects. The process asked for an overview of each project, the contribution made by ASTUTE, the project status, referrals and future opportunities arising. In addition the discussion sought a judgement of the success of the project to date and an assessment of what the customer might say about the project when asked.

The collated results of these discussions may be found below. In addition the responses to the final question regarding the Project Officers evaluation of each project plus their assessment of the customers view, has been included into a table in Section 3.3.6.1.

The findings from these interviews have been collated into the section below.

Project Description / Problem faced / Reason for Engagement			
<p>This first section of the ASTUTE Project Officers interview sought a clarification and description of the project undertaken, the problem faced and/or the reasons that ASTUTE had been engaged. This question was not included for reporting purposes but to assess the level of understanding of the customers requirements.</p> <p>The findings from this are that, without exception, there was an extremely high level of understanding by the Project Officers of each project, the reasons for engagement and the issues that had been, or were to be addressed.</p>			
As a result of the project to date, have any changes or improvements been initiated/stimulated by you or anyone else at ASTUTE?			
YES	52	NO	8
<p>Again the responses gleaned to this question were not for reporting purposes but to assess the level of understanding of the contribution made by ASTUTE.</p> <p>The figures in this section relate to the 46 projects completed (as defined by having signed documentation, plus projects completed and awaiting paperwork, plus projects in progress and nearing completion, plus additional projects for a company that may have involved other Project Officers or Universities. These total 60 responses.</p> <p>The findings again revealed an extremely high level of understanding by the Project Officers of the changes or improvements initiated and delivered on each project as a result of the ASTUTE intervention. In instances where there was no definitive improvement were instances where the projects are ongoing and the changes or improvements are yet to be realised. This was confirmed by the responses to the following question.</p>			

If NO	Do you expect any to arise during the project? (YES/NO)				
YES	8	NO	0		
If YES	Please describe what you expect or had expected these to be.				
<p>100% of respondent who reported no change to date as a result of ASTUTE intervention, did state they expected change or improvement to arise latterly in the project. This positively highlights the impact of the ASTUTE programme on all collaborative R&D projects to date. Each project officer gave a clear and positive response to the questions asked and detailed knowledge regarding the stages of client development.</p>					
Has the collaboration project to date involved other disciplines at your University and/or any other organisation?					
YES	17	No	43		
<p>The Project Officers were clear and unambiguous in their knowledge of instances where other disciplines or organisations were involved. Whilst the majority initially reported no involvement of other disciplines within their university or with any other organisation, supplementary information revealed that of 55 projects discussed, 44 accessed internal collaboration and 25 accessed external collaboration in delivering projects to participating companies. This also revealed that 72% of the projects accessed multiple academic inputs with 45% of the projects accessing external collaboration. In assessing this it is important to recognise that there has been value judgements made for Project support between a discrete delivery and delivery involving other disciplines and organisations. As a guide, the latter should be undertaken only when needed and not as a matter of course to meet targets for collaboration. The current process appears to strike this balance effectively to make best value of resource and funding.</p> <p>Further analysis of the data shows that, of the 46 projects completed to date, 19 involved collaboration, some with more than one other partner. These reveal that 8 collaborated with more than one University, 14 with more than one Department and 3 with external companies or independent organisations.</p>					
If NO	Do you expect any other collaboration to arise during the project?				
YES	8	No	52		
<p>The findings were that the Project officers had a clear understanding and vision of whether other collaborations might arise during the project. Again the responses highlight that other collaborations are taking place, but quite rightly are selective and arise when there is a need or the opportunity to provide a better solution.</p>					
Has the identified problem been resolved?					
Yes	34	No	3	Partially	23
Did you expect it to have been resolved by this stage in the project?					
Yes	40	No	21		

In terms of the project issues explored, over 50% reported resolution, with 23 partial and 3 unresolved at this stage of the interview. Of those who responded, expectations of resolution by this stage were evidently higher than that achieved.

This should be taken account of in setting expectations in the future and to ensure that a contingency allowance is made for unexpected issues arising. In general there were valid and justified reasons for non completion, or delayed/partial resolution of the problems identified. Some project officers reported delays in organisational engagement due to businesses existing priorities and established commitments. These often required their attention and left little resource to collaborate with ASTUTE at that time. Project officers referred to evidence of contact with clients to ensure any delays were fully documented to justify any unachieved timescales or objectives.

Has any need been identified for other support referrals?

Yes	9	No	51
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If YES, has additional support been identified to develop R&D activities?

Yes	8	No	1
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If Yes Please describe this (e.g. advice or funding)

The majority of project officers judged that were able to provide support to the projects and accordingly saw no requirement to reference projects to other support referrals. This is, in part, indicative of the effective filtering process in place within ASTUTE and the assessment and judgements that are made at the earliest stage. This is reinforced by evidence (See Appendix A) and examples discussed of projects for which ASTUTE was not the most suitable support. Relevant referrals made by project officers have included ATM and KESS Projects to fund a PhD student, referrals to external private sector organisations (where there was seen to be conflict of interest with the private sector suppliers) and via Newport University in conjunction with the University of Glamorgan.

If No Do you expect any to arise during the project?

Yes	1	No	0
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If Yes Please describe these

The proposed expectations to signpost in the future were in relation to additional RD&I funding and support in identifying/researching other manufacturing solutions.

Have referrals been made to other business support groups?

Yes	7	No	53
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If Yes Please describe these

The majority of project officers stated that no referrals had been made to business support groups specifically – but 7 out of the 60 reports collated listed the following supports as relevant and utilised by their client companies:-

- GO Wales (Graduate Opportunities) placement scheme,

<ul style="list-style-type: none"> • access to additional RD&I funding (SMARTCymru), • Knowledge Transfer Partnership (KTP), • Local Investment Fund, • Antur Teifi 				
If No	Do you expect any to arise during the project?			
Yes	3	No	50	
If Yes	Please describe these			
<p>Project Officers indicated that they expected only 3 out of the 53 business in this section to be referred to other business supports. This suggests that there is a requirement to raise awareness and impart knowledge in relation to what other support schemes are available and outline eligibility criteria so project officers can quickly and efficiently identify support and provide contact details/programme information regarding potentially complimentary and funded services.</p>				
In your opinion has the project to date been:				
Very Unsuccessful	Unsuccessful	Neither successful nor unsuccessful	Successful	Very Successful
	3	4	33	20
Reasoning/ Evidence or Comments				
<p>The reasoning and evidence for each project has been incorporated into the table in Section 3.3.6.1 within section 3.3. Company feedback has been inserted aside project officers opinion to compare viewpoints and perceptions of the projects to date.</p>				
In your opinion, if asked, would the customer say that the project to date has:				
Fallen far short of expectations	Fallen short of expectations	Met expectations	Exceeded expectations	Far exceeded expectations
	5	37	18	
Reasoning/ Evidence or Comments				
<p>The reasoning and evidence for each project has been incorporated into the table in Section 3.3.6.1 in subsection 3.3 below. Company feedback has been inserted aside project officers opinion to compare viewpoints and perceptions of the projects to date.</p>				

3.3 ASTUTE Customer Findings.

The client list provided by ASTUTE contained 155 companies and the information contained within section 3.3 is taken directly from the questionnaires completed by the 117 companies that agreed to take part in the survey. This 117 comprises 46 Project responses (Completed Projects) and 71 Assists.

Where appropriate, comments and interpretation have been included, but statistics also appear which require no analysis.

Organisation Information	Projects	46	Assist	71	TOTAL	117
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Please note that any minor discrepancies in figures are due to projects or assists not fully completing the questionnaire.

3.3.1 Questionnaire Section 1 – Background Information

Business Ownership	Sole Trader	4	Partnership	3
	Limited Company	106	PLC	3
	Social Enterprise	0	Charity	1

Please advise your industry sector					
Assists and Projects	P	A		P	A
Aerospace	-	3	Automotive	2	5
Engineering	9	15	Medical Engineering	6	-
General manufacture	13	18	Process (e.g. software)	1	-
Other	16	29			
Other for Projects: Elite Manufacture (2); Life Science; Research; Electronics; Marine; Energy; Equipment manufacture; Plastics; Process Industry; Specialist equipment manufacture; Medical; Metal processing; R&D (2); Shipbuilding.					
Other for Assists: Pharmaceutical Electronics; Construction; Environmental; Specialist Testing(2); Biotech; Nanotech (2); Welding(2); Flame Retardant Products; IT & Communications(2); Recycling; Screen Printing; Internet Retail; Product Development; Farming; Measurement; RD&I (2); Specialist Design and Manufacture; Electrical Optics; Pharmaceuticals; Environmental; Educational Charity; Cycle/Motorcycle Suspension; Retail; Test Labs.					

Footnote. The reason why so many companies fall outside the key sectors is that they were given the choice to be more specific about their business sector. “Welding” for example might be classified under the general heading of “Engineering”. “Cycle/Motorcycle Suspension” could have been classified under one of three general headings. (Engineering, manufacturing, automotive). The important issue that arose is that businesses do not like being listed under a broad heading and given the choice wished to be more specific about what they do, as a means of differentiating themselves. The term “High Technology” was not a term used by any of participant companies in the evaluation as an illustration of their desire not to be pigeon holed or generalised.

Taking this point on board, all the participant companies could if needed be classified under the key sectors supported by ASTUTE. In this evaluation the participant t was felt however that in seeking their co-operation to spend time giving feedback that they were given the freedom to describe their business in their own terms.

An important consideration for ASTUTE (and all stakeholders) is that just because a company does not wish to be classified under one of the defined headings (such as “General manufacture”) does not mean that is not eligible to be a candidate for ASTUTE support.

3.3.2 Questionnaire Section 2 – First Contacts

How did you first hear about ASTUTE?			
ASTUTE Website	3	Other Website (e.g. University website)	1
ASTUTE emailing	1	Third party email (e.g. WG)	6
ASTUTE Event	4	Third party event	2
ASTUTE Flyer	4	Direct contact from ASTUTE	46
Press article	2	Referral from Third Party	46
Social Media	0	Other	2
<p>Respondents referenced various sources of initial contact/referral to ASTUTE including: Neath Port Talbot Meet the Buyer event, ILS, Optical Technium, Welsh Government and a Training officer at Unicem. One organisation stated they approached ASTUTE Directly, having heard of the support that was potentially available. Direct contact from ASTUTE or an alternative source referral are undoubtedly the most popular methods of communicating the availability of programme benefits. This is recognised as a key tool in promoting ASTUTE and importance of networking to raise the profile of the resources available.</p>			

When did you first make contact with ASTUTE?

Less than 1 month	4	Less than 3 months	2
Less than 6 months	5	Less than 1 year	25
More than 1 year	60	More than 2 years	21

Over 69% of respondents had engaged with ASTUTE over a year ago, and 18% more than 2 years prior to interview. This provided the research team with an opportunity to gather feedback from those who had a long standing relationship with the programme and would have a clear insight into what was available, the level of support offered, quality provided and input into how the management team communicated with client companies. 31% of the client companies interviewed had been working with ASTUTE less than a year – some for a short a period as a month, therefore their ability to provide feedback on many of the issues explored, was minimal.

For ASTUTE, which partner University or Universities have you dealt with?

Please Note. These figures relate to both Collaborative R&D Projects and Assists

Swansea University	62	Swansea Metropolitan	4
Bangor University	3	University of Aberystwyth	7
Cardiff University	37	Cardiff Metropolitan University	3
Glyndŵr	9	University of Wales, Newport	6

Please note that some companies indicated that, through their ASTUTE involvement they dealt with more than one University.

For ASTUTE, which partner University or Universities have you dealt with?

Partner Universities involved in Collaborative R&D projects (only)

Swansea University	31	Swansea Metropolitan	2
Bangor University	3	University of Aberystwyth	2
Cardiff University	10	Cardiff Metropolitan University	
Glyndŵr	1	University of Wales, Newport	3

Please note. In addition to the 8 partners, one company also specifically mentioned Coleg Sir Gar.

3.3.3 Questionnaire Section 3 – Interaction

Since first making contact with ASTUTE how frequently have you have had project related contact?

None that I can recall	5	Only once	14
More than once	20	2 to 3 times per year	26
Monthly	25	More than once a month	27

44% of respondents reported frequent interaction with ASTUTE regarding their project (monthly or more than once a month) and 4% reported no interaction since first making initial contact. 39% reported more than once annually project related contact, with over half of those being more frequent. 14 out of the 117 respondents stated that they had only heard from ASTUE once since initially engaging with them.

What were your primary reasons for engaging with ASTUTE? (please tick all that apply)

To understand more	27	To collect information	19
Networking	19	To access funded research expertise	57
Collaboration	35	Product and/or process development	80
Other	8		

68% of respondents highlighted one of the key reasons for engaging with ASTUTE was in relation to product and/or process development, as well as accessing funded research expertise. The very nature of the programme is focused on these elements, therefore the responses highlight that the message is clear and evidently, there is a need to fulfil these requirements in the market. Other reasons outlined for initial engagement, aside from those covered above, including access to funding for industry, prototyping of products or processes, collaboration, ISO9001 advice and guidance as well as access to very specific expertise and research. One organisation specified that ASTUTE had actually made contact with them in relation to ASTUTE's requirements for information. Networking and collaboration were also listed for reason of engagement – as well as to enhance their understanding of what is available to them in the way of support, resources, advice and guidance.

How would you best describe your current business development needs? (Please tick all that apply)

Technical expertise needs	57	New product and/or process development needs	84
Need for access to support	43	Investment in research & development	52
Other (please specify)	8	N/A	2

As stated in the feedback from the previous question – the primary reason for engagement was product/process development needs. Similarly, the results of this question regarding current business development needs flags this up as important.

Requirements for investment in R&D and technical expertise requirements were also highlighted as important to the organisations interviewed. Requirement to access support was ticked by 37% of respondents – which contrasts with some of the feedback obtained from project officers of collaborative R&D projects where 51 out of 60 stated they'd made no support referrals and 53/60 stated they had not referred their client companies to any business support services. Recognising that some training, development and support services are available via Welsh Government, the additional ("other") needs outlined could have been fulfilled through signposting an organisation to the plethora of complimentary programmes. However, it is important to recognise these companies may have already been working with support services, hence no requirement to signpost further. The question was posed latterly in the research to determine what other University or Welsh Government programmes the organisation was engaging with and a list of results can be found on the following page.

Training and marketing were flagged up by numerous organisations who consider these priorities in relation to their current business needs. Idea generation, market research, marketing strategy, market development (penetration, diversification). Businesses also stated that they were lacking skills in areas which could be brought in house i.e. Marketing and commercialisation of concepts, exploring the feasibility of various ideas.

In this evaluation and in the section above "Need for access to support". The term "support" was defined to participant companies as assistance that is provided to the company from an external source. "Access to Support" is the company being able to call upon and access this support to assist their own organisation

Which of these are priorities at the moment? (please tick all that apply)			
Technical expertise needs	44	New product and/or process development needs	75
Need for access to support	27	Investment in research & development	39
Other (please specify)	1	N/A	3

The priorities set, again mirror the pattern of responses in regards to the business development needs. New product development and process development needs are ranked as high priority, with importance also placed on investment in R&D and technical expertise requirements. As with the previous responses received, the company's priorities contain issues such as marketing, securing finance and commercialisation of existing products. "Support" in this context was defined to participant companies is assistance that is provided to the company from an external source. "Access to Support" is the company being able to call upon this support to assist their own organisation.

Other than ASTUTE are you currently working with or receiving support from any other University or Welsh Government project?				Yes	No
				56	61
If YES. What is name of the University and the project/s?					
Swansea University Photovoltaic A4B CNH ATM/ PhD Innovation Vouchers LEAD Advanced Welsh Government Workforce Development Programme Centre for Business HPS HPC Wales	Aberystwyth University RD&I Support KESS Support Pathways Apprenticeship Training University of Wales Prince of Wales Innovation Scholarships AFRC EGAS	Sheffield University Swansea Metropolitan University Glasgow University Oxford University Various Programmes: Xenos SIF KTP via Gower College Aachen University (Germany)	Coleg Morgannwg Cardiff University Cardiff Metropolitan University University of Glamorgan (Collaboration on Vacuum Casting) Coleg Sir Gar Skills Growth Wales ReAct Bolton University		

The information above relates to projects other than ASTUTE that organisations interviewed are working with. The conclusion that can be drawn from this is that almost 48% of organisations seeking external supports are doing so from more than one source.

ASTUTE partner Universities are listed above in instances where the company is working with another project within that organisation. Examples are the LEAD programme, CNH and SEACAMS.

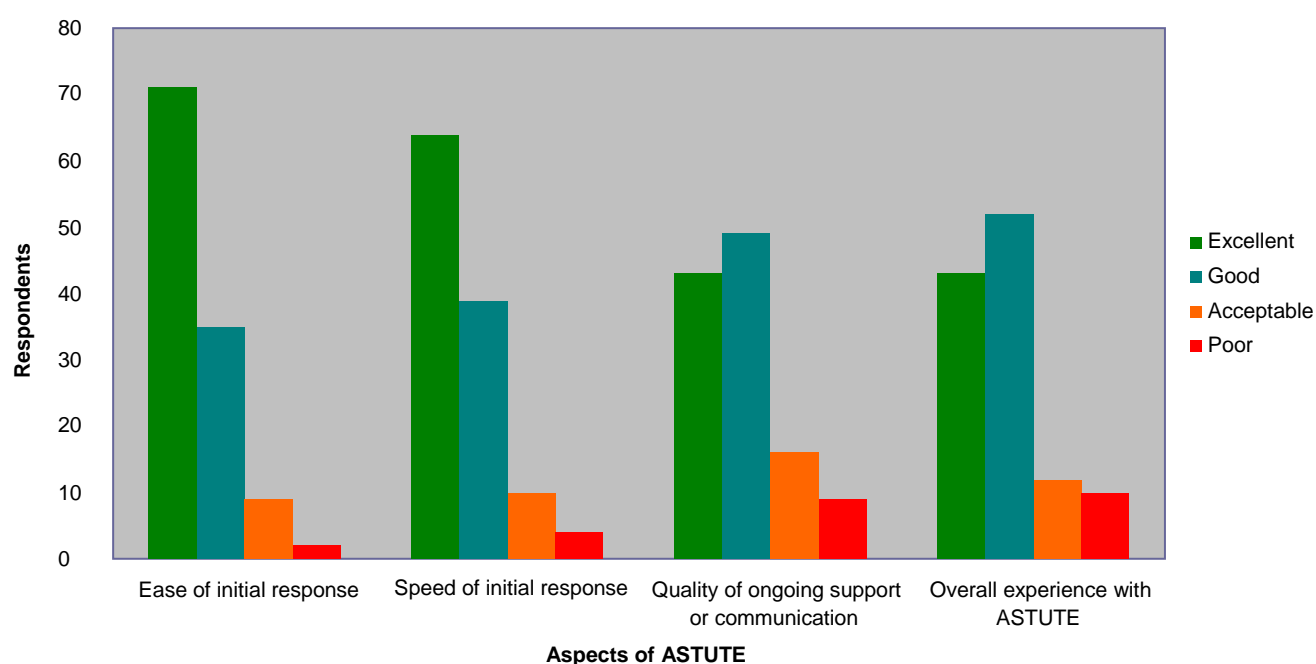
If NO. Would you like information on other support which may benefit you?	No	31	Yes	30
<p>The requirement to be signposted to additional support is evident – nearly 50% of respondents who weren't currently working with or receiving support from any University or Welsh Government project stated they would like additional information which may benefit them and their business. This combined figure indicates that almost 75% of participating companies would welcome external supports. The plethora of supports available and those referenced above highlight the availability of resources which might be accessible for some companies – adding value to the service provided by ASTUTE.</p> <p>In addition it should be noted that In general the universities in the above list that are outside Wales were working on different projects for the companies. Whilst there may be projects for which this support could have been provided by ASTUTE, there is often a long term relationship with external organisations and no reason for the business to change provider mid project.</p>				

3.3.4 Questionnaire Section 4 – Quality of Support

On a scale of 1 to 4, where 1 = poor, 2 = acceptable, 3 = good and 4 = excellent, please rate the following aspects of ASTUTE.

Responses	Poor	Acceptable	Good	Excellent
Ease of initial response	2	9	35	71
Speed of initial response	4	10	39	64
Quality of ongoing support or communication	9	16	49	43
Overall experience with ASTUTE	10	12	52	43

The following graphical representation of the above results highlights the positive responses received from companies in relation to the various performance aspects of ASTUTE researched. Very few provided negative feedback in relation to the ease and speed of initial response or quality of support and communication. Unfortunately 9% of respondents indicated that the overall experience with ASTUTE was poor, with a further 10% stating they considered it “acceptable”. It appears that the initial engagement with the programme is exceptionally positive – convenient and rapid – with 90% stating the ease of initial response was excellent or good. However, the results become a little less skewed when asking about ongoing communication and experience. From 60% stating ease of initial response was excellent to only 37% reporting similarly in relation to the overall experience – there is scope for improvement in relation to the ongoing communication, support and retention of positive relationships.



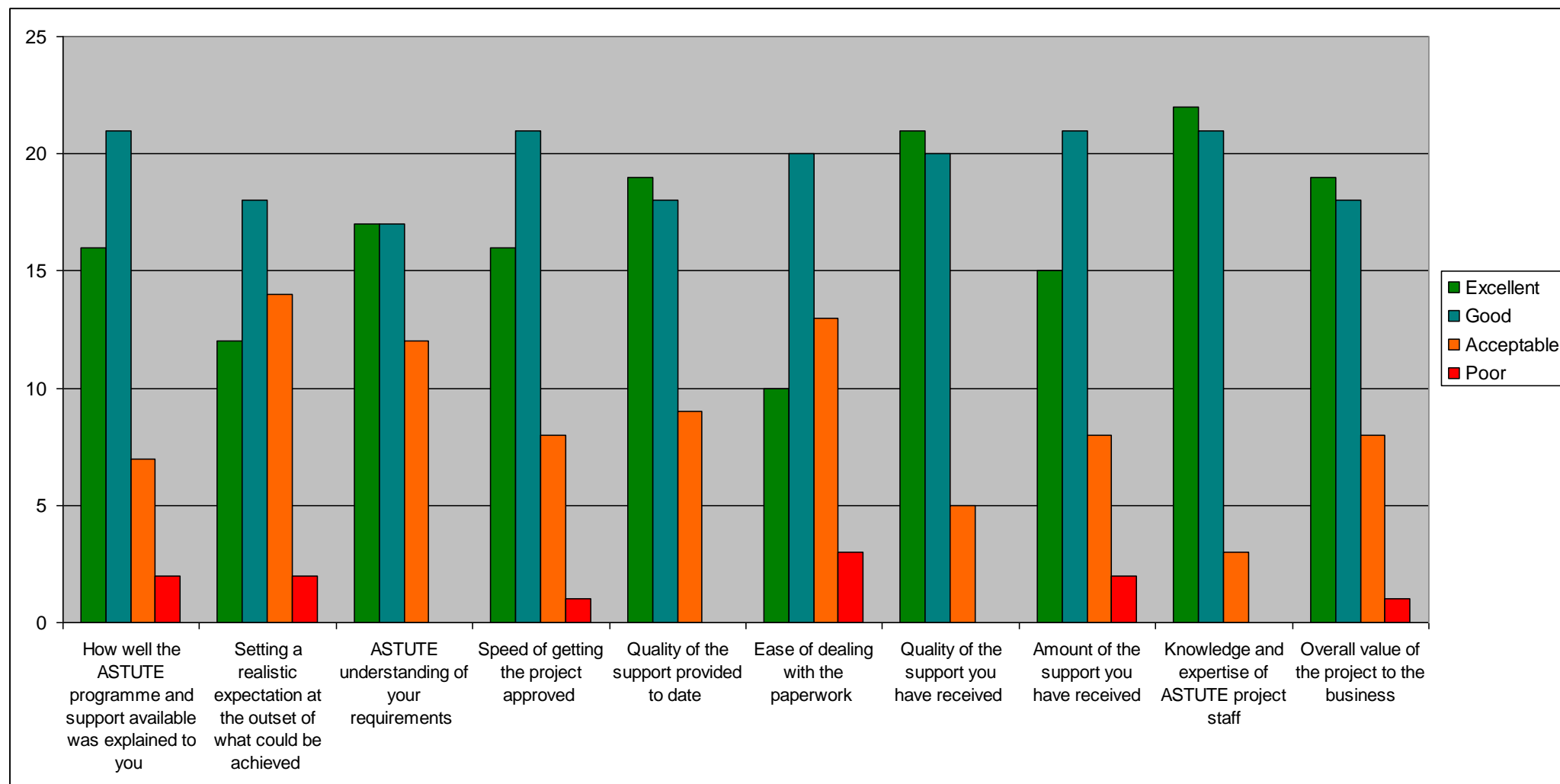
For Collaborative R&D Project clients ONLY

Again on the scale of 1 to 4, where 1=poor, 2=acceptable, 3=good and 4=excellent, please rate the following aspects of ASTUTE.				
Responses	Poor	Acceptable	Good	Excellent
How well the ASTUTE programme and support available was explained to you	2	7	21	16
Setting a realistic expectation at the outset of what could be achieved	2	14	18	12
ASTUTE understanding of your requirements	0	12	17	17
Speed of getting the project approved	1	8	21	16
Quality of the support provided to date	0	9	18	19
Ease of dealing with the paperwork	3	13	20	10
Quality of the support you have received	0	5	20	21
Amount of the support you have received	2	8	21	15
Knowledge and expertise of ASTUTE project staff	0	3	21	22
Overall value of the project to the business	1	8	18	19

The following graphical representation of the above results highlights the positive feedback from participating organisations who have engaged specifically in a collaborative R&D Project. The total number of respondents interviewed was 46. All aspects covered were ranked either excellent or good, with the main areas for concern being setting realistic expectations, understanding requirements and paperwork. 46% of respondents ranked the quality of support received as excellent, with a further 43% rating it as good. Similarly the knowledge/expertise of ASTUTE staff was overwhelmingly considered positive with no poor ranking, and only 3 opting to rate it acceptable.

The opportunity for Universities to establish links with businesses based on the balance of academic expertise and commercial experience has been underlined clearly by the ASTUTE project staff – and should form the main message when actively promoting and engaging with new client companies and projects. Clearly more emphasis needs to be placed on understanding requirements from the outset, and to this end – realistic expectations can be set which would resolve any negative feedback in relation to achievement of objectives.

Graphical Representation of the feedback from those companies participating in a collaborative R&D Project.

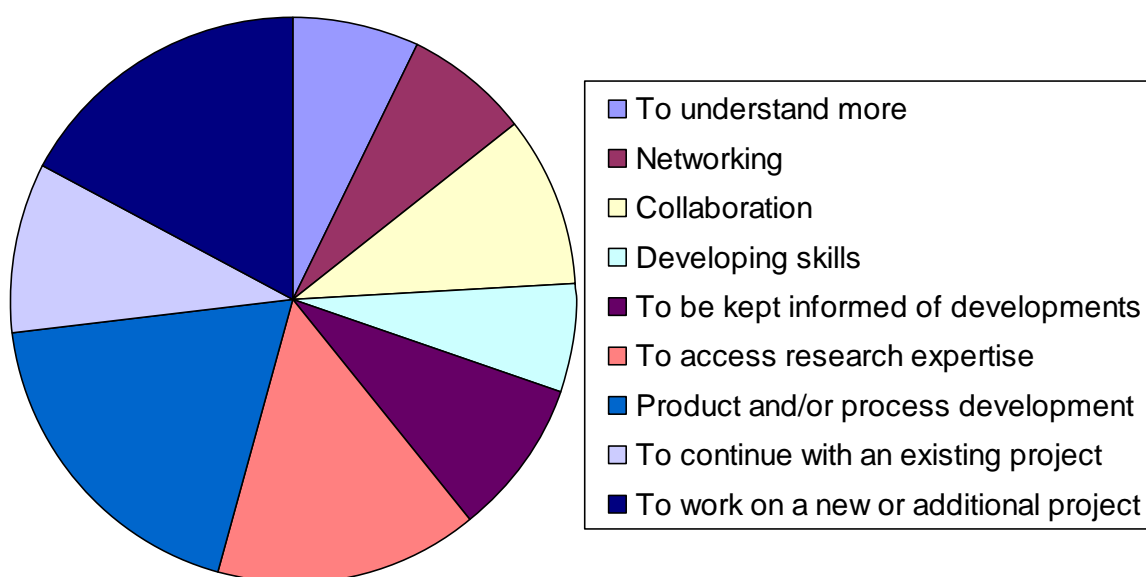


3.3.5 Questionnaire Section 5 – The Future

What will be your main reason for maintaining contact with ASTUTE? Tick all that apply.

To understand more	28	To be kept informed of developments	34
Networking	27	To access research expertise	58
Collaboration	38	Product and/or process development	72
Developing skills	23	To continue with an existing project	38
Other (please specify)	10	To work on a new or additional project	66

In relation to the sustainability of the project, it was important to understand organisations reasons for maintaining contact with ASTUTE, individuals were requested to tick all that apply to them. The most popular reasons chosen were product/process development and accessing research expertise. Additionally over half of the respondents also suggested the opportunity to work on a new or additional project would encourage them to maintain contact with ASTUTE. Other reasons provided directly by those interviewed included signposting to funding and other available resources which would complement the existing provision as well as the fact that their project could be resources more effectively to achieve stated objectives. Two organisations specified they did not intend maintaining contact with ASTUTE.

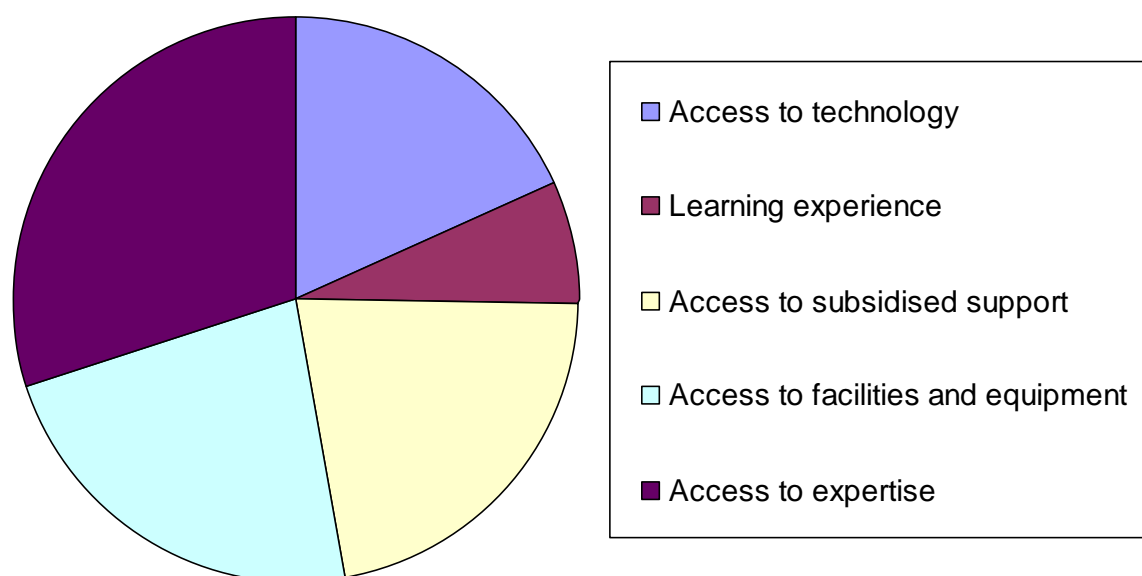


What would encourage you to make greater use of the infrastructure or resources of ASTUTE? Tick all that apply.

Access to technology	47	Access to facilities and equipment	58
Learning experience	18	Access to expertise	77
Access to subsidised support	56	Other (please specify below)	19

In relation to encouraging organisations to make greater use of the infrastructure and resources of ASTUTE, access to expertise is the main appeal – with 66% of individuals stating that this would encourage them to engage more. In this context “greater use” was seen as being more of the same. The positive element here is that participating businesses would welcome more support should it become available. The caveat in respect of this is that businesses have been made aware that the support is not unlimited and the scope of any ASTUTE project has to be clearly defined in order that it has a logical conclusion.

Accessing subsidised support, facilities and equipment was also ranked highly with respondents. Other reasons provided included availability of specific resources i.e. rapid prototyping, along with realising objectives, reducing level of paperwork and achieving the turnaround of projects based on original timescales. One individual stated that ASTUTE was offering more than the business was capable of taking – so an understanding of commercial resources is also important to ensure a positive reciprocal relationship. Motivation from academia and sharing of best practice between Welsh manufacturing were also elements which, if integrated, would encourage greater use of the infrastructure.



As a result of your ASTUTE contact, is your perception of academia/industry collaboration?

Unchanged	59	Better	52	Worse	6
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How could it be improved?

Whilst 50% of companies reported an unchanged view of academia/industry collaboration – it is important to recognise that some may have engaged with the university on the basis of a very positive perception previously – in which case, an unchanged view may still be a positive view. The fact that 52 out of 117 companies stated their view has changed for the better in relation to engagement with the University is exceptionally positive and highlights the outputs achieved were well appreciated and perhaps exceeded expectations. A small percentage (5%) did specify their perception of academia/industry collaboration had worsened as a result of the ASTUTE contact. The reasons provided by all participants form the basis of the following feedback and have been combined due to repetition of various points.

It is important to note that those with a worsened perception largely relate to companies engaged in the very early stages of ASTUTE, at a time when it has been recognised, ASTUTE was less discerning about the nature of the project or the intervention offered. This is not unusual in the early stages of projects when the project is in its infancy and infrastructure being defined.

Positive:

Ongoing communication and positive contact has resulted in an enhanced perception of academia/industry collaboration.

Numerous organisations reported no improvements to be made – they were content with the support received and very appreciative of the outputs experienced to date.

Constructive:

There is an opportunity to form stronger links between students and real life engineering projects to exposure them to commercial operations and enhance their R&D experience.

Introducing a business/commercial element to the support being offered.

Perhaps introduce more focus on the sustainability of projects.

Negative:

Profile needs to be enhanced to ensure individuals and businesses understand and appreciate what is available via this resource, as well as ongoing communication via meetings/newsletters etc.

Many reported that paperwork processes were inconvenient and time consuming. Level of detail required by the funding bodies appeared to cause discontent.

Academia and industry collaborations could be improved through investing in more initial discussion to understand the concept and key objectives of the organisation. ASTUTE need to appreciate the commercial vision of an enterprise and recognise resources are limited (time, money, equipment and skills). Development of a strong and positive relationship from the outset is key – encouraging the organisation to be honest and open about their limitations so all expectations are realised.

Communication via non-English speaking staff was seen as resulting in a negative experience for one organisation.

Urgency and speed of meeting the objectives set is one area for improvement – and this links to the commercial operations adopted by enterprise which perhaps are not mirrored in public sector or academic institutions. Focus and attention to detail need to be priority to gather a better understanding of how academia can support commercial enterprise.

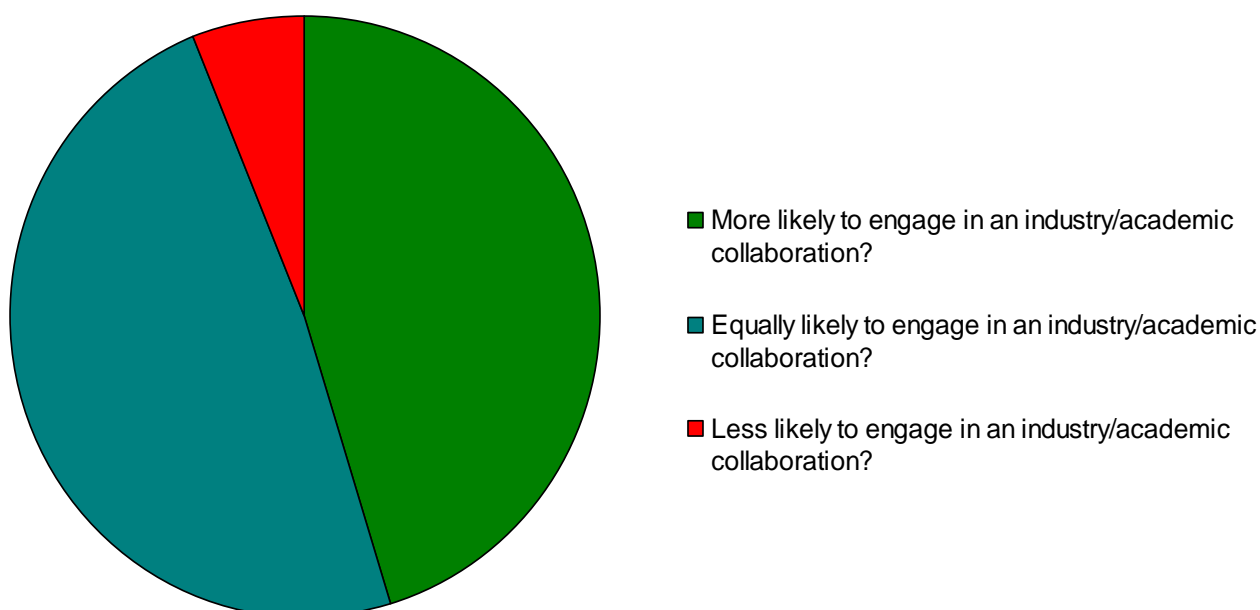
Clearer IP policies and agreements need to be established.

One organisation perceived the benefit to be experienced more by ASTUTE than the companies they were attempting to assist.

Inter-university communication also needs to be enhanced – the perception that they were competing for projects as opposed to collaborating or seeking the best solution for the business was reported. A breakdown of the scores (1=poor, 2=Acceptable, 3=Good, 4=Excellent) plus comments regarding inter university communication has been detailed in Section 3.1 of the report. The competition for projects at the start of the ASTUTE project was noted by a small number of respondents. These same respondents also noted that this no longer the case and has been replaced by an open and sharing service. Reference was made by a number of respondents to the ASTUTE Skills and Expertise Matrix from Marketing Materials. (See Appendix B of the report)

As a result of your ASTUTE experience are you:-

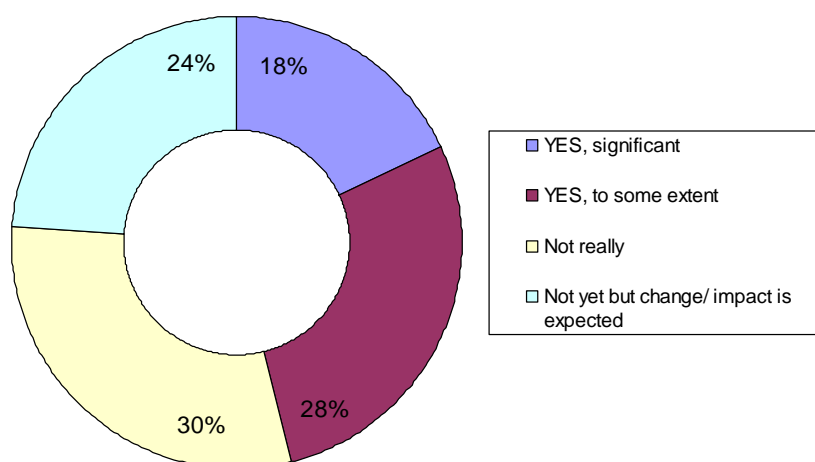
More likely to engage in an industry/academic collaboration?	53
Equally likely to engage in an industry/academic collaboration?	57
Less likely to engage in an industry/academic collaboration?	7



3.3.6 Questionnaire Section 6 – Impact

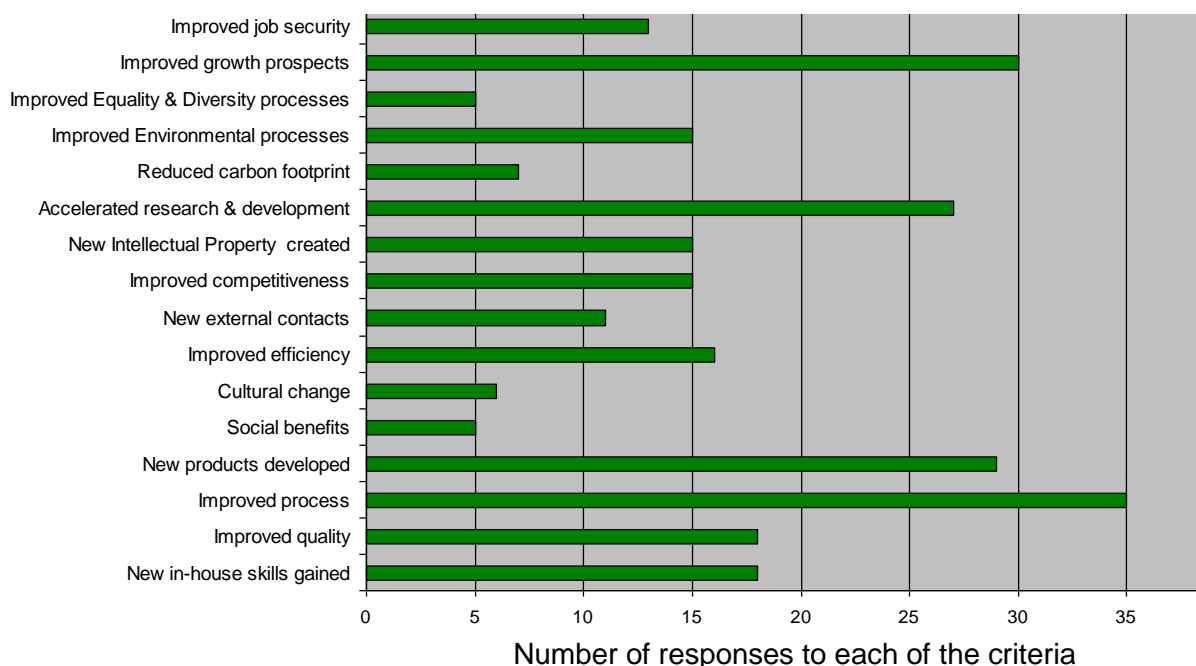
Has your involvement with ASTUTE brought about any improvement or impact to your organisation / product / service or processes.

YES, significant	21	YES, to some extent	33
Not really	35	Not yet but change/ impact is expected	28



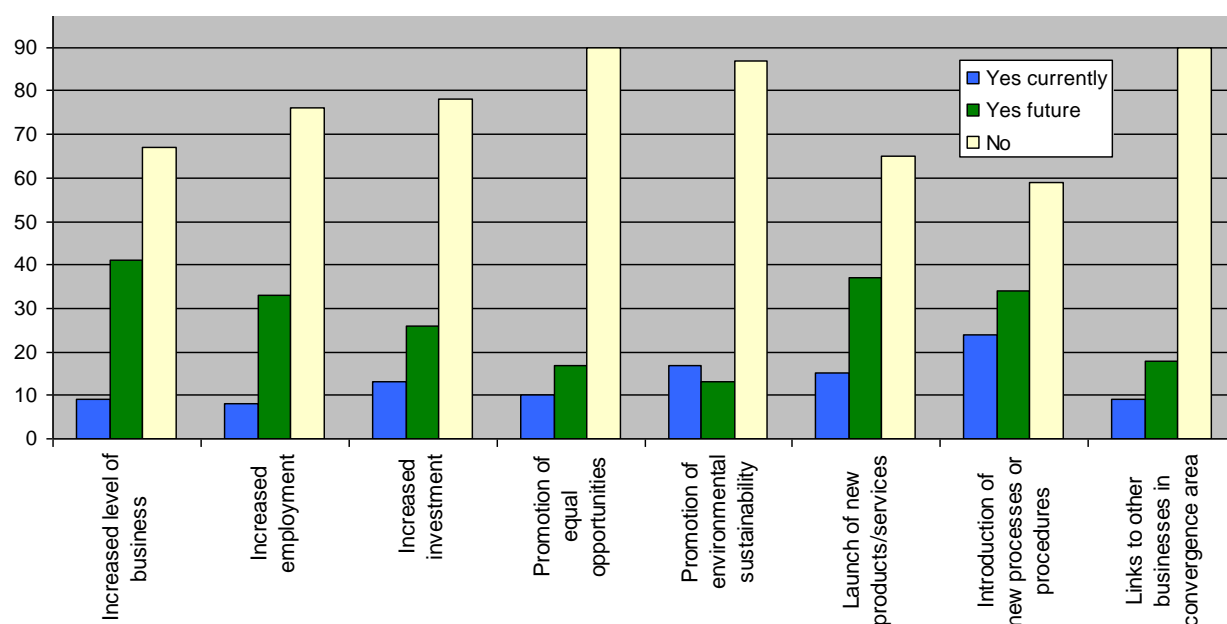
30% of responses stated no real improvement or impact to the organisation/product/service or process as a result of involvement with ASTUTE, leaving the majority of the opinion that some improvements have been made as a result of the interaction. These results were collated for all participating organisations – not simply the collaborative R&D projects.

The following chart highlights the areas of improvement or evident impact for those organisations who stated ASTUTE did contribute to organisational development. One individual specified an alternative improvement which was to instigate a different way of working. Other reasons can be seen on the following chart



Has your involvement with ASTUTE brought about or contributed to any of the following? Answer either “NO”, “YES, currently” or “YES, expected in the future”.

Responses for Projects and Assists	YES Future	YES Currently	NO
Increased level of business	41	9	67
Increased employment	33	8	76
Increased Investment	26	13	78
Promotion of Equal Opportunities	17	10	90
Promotion of Environmental sustainability	13	17	87
Launch of new products or services	37	15	65
Introduction of new processes or procedures	34	24	59
Links to other business in convergence area	18	9	90



The following table is a breakdown of the responses relating to Collaborative R&D projects only

Has your involvement with ASTUTE brought about or contributed to any of the following? Answer either "NO", "YES, currently" or "YES, expected in the future".				
Breakdown for Collaborative R&D projects only	YES Future	Number / Value	YES Currently	NO
Increased level of business	17	£100M, £60M, £30M, £250K	6	21
Increased employment	13	50, 3, 1,3-5, 4, 4, 2-3	8	21
Increased Investment	15	£20M, £60M, £100K, £300K, £100K	10	20
Promotion of Equal Opportunities	7		5	31
Promotion of Environmental sustainability	5		9	28
Launch of new products or services	18	£10M p.a. over 10 years	9	18
Introduction of new processes or procedures	16	1	15	14
Links to other business in convergence area	6		7	30
Any Other	2		1	
Reducing Manuf. Costs Proved the concept of the organisation's ideas. Engaging with academia and forming relationships, understanding availability of resources in universities.				

Are the benefits of your involvement or project with ASTUTE?														
Long Term		54	Medium term		22	Short Term		16	No Benefits		25			
What is the % likelihood of you working with ASTUTE again														
0-20%		9	21-40%		5	41-60%		36	61-80%		34	81-100%		33

From the above statistics, it is visible that the long terms benefits are most commonly experienced, with 21% not experiencing any benefits as a result of becoming involved with ASTUTE. Over half all respondents stated that there was a 60%+ chance of them working with ASTUTE again; with only 7% indicating that it wasn't likely they would re-engage.

The researchers were also requested to obtain feedback in relation to what the recipients of ASTUTE support considered the best and worst aspects of the programme. An amalgamation of results can be found as follows:

Best aspects of ASTUTE:

- ✓ Access to technology, skills and other resources;
- ✓ Communicative, approachable, flexible, responsive and accessible support;
- ✓ Enthusiastic, trustworthy, honest helpful, supportive and knowledgeable staff;
- ✓ Access to industry experts via network of contacts;
- ✓ Ability to deliver exactly what they promised/achievement;
- ✓ Commercial knowledge of staff and understanding of the industry;
- ✓ Absence of bureaucracy in the process;
- ✓ Ability to stimulate ideas, encourage thinking and challenge the organisation;
- ✓ Trust;
- ✓ Access to rapid prototyping knowledge and expertise;
- ✓ Easy to understand package of support available and signposting;
- ✓ Convenient location of the ASTUTE team.

Worst aspects of ASTUTE

29 organisations stated there were no “worst aspects” of ASTUTE

- More help required (practical, time allocation, funding and expertise);
- Academic time constraints;
- Limited resources of the organisation to engage with ASTUTE;
- Lack of response to urgent issues;
- Bureaucracy of a public sector organisation;
- Little clarification regarding IP ownership;
- Lack of communication after initial contact;
- Cost of accessing equipment and expertise;
- Poor understanding of commercial timescales;
- Events are too generalised and don’t focus on the subject;
- Academic holidays – little happens for 3 months over the summer period;
- Project and time management could be improved along with accountability of the project;
- Competition with businesses for rapid prototyping work;
- Logistics and travelling between universities involved in the project;
- Lack of in-depth follow up;
- Attention to detail is lacking – one company experienced dimension issues with a prototype;
- Lack of commercial and marketing support;
- Confidentiality issues;
- Facilities were not to the expected standard;
- Lack of staffing continuity;
- Lack of understanding of individual business issues.

The diversity of observations in the above list show that there is no identifiable common weakness and that the perceived weaknesses identified by participating companies are tending towards personal experiences.

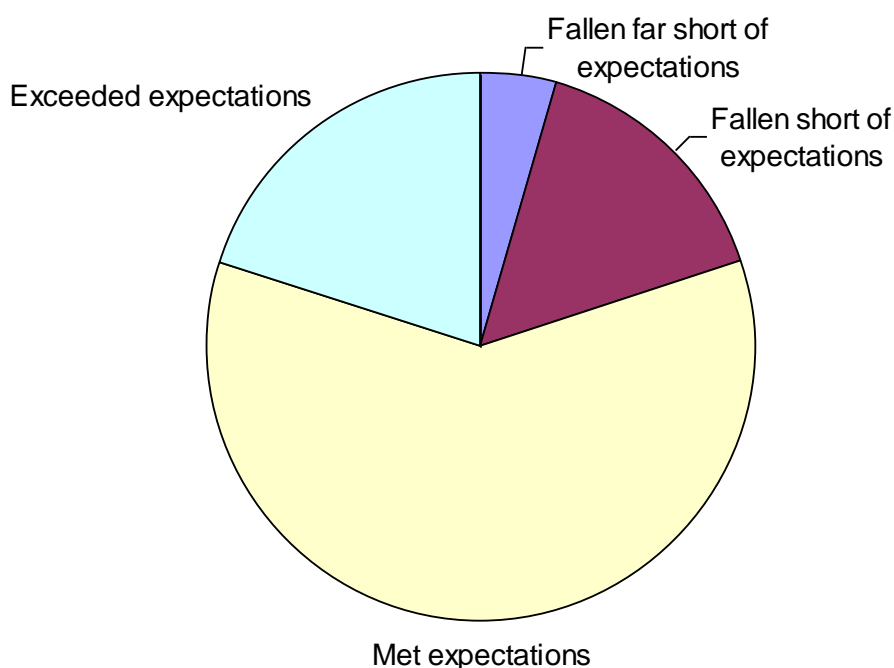
Interestingly with ASTUTE being given a remit of collaboration and involvement of partner universities, one company observed that one weakness they saw was the logistics and travelling between universities where more than one was involved in the project.

From an analysis of the comments from companies, none appear to be related to a lack of resource regarding particular technologies expertise or skills. Rather these appear to be related to individual issues. Please note that each of these is an individual comment and not a general finding.

For Collaborative R&D Project clients ONLY

The table below contains the collated responses from ASTUTE participants in 46 Collaborative R&D projects.

<i>In your opinion has the project to date:-</i>					
<i>Fallen far short of expectations</i>	<i>Fallen short of expectations</i>	<i>Met expectations</i>	<i>Exceeded expectations</i>	<i>Far exceeded expectations</i>	<i>NA</i>
2	7	27	9	0	1



In relation to the companies' expectations in relation to the Collaborative R&D projects – the majority of organisations stated that the project had either met, or exceeded the original proposed output. Not all individuals responding provided reasons for this – but comments were taken from those who did, and categorised to ensure ASTUTE had clear justification for their choice.

An analysis of those 9 businesses that felt the project fell short/far short of expectations has elicited specific comments. These have been passed on to the ASTUTE team for analysis and action. Three of the businesses cited the reasons as being of their own making due to the no availability of their own resource and supplier related problems. Others commented that “further benefits would have been obtained had the finance been provided directly to the client to manage”; “Summer is not a good time for my business”; “Paperwork” and “Extended timescales” In respect of this latter comment the business also added “I am confident that the project will ultimately meet expectations and have been very impressed with the facilities ASTUTE has available.

In relation to meeting expectations – all those respondents who provided comments included positive feedback regarding provision of the right solution, at the right time, quality management of the projects and integration of resources and expertise which may not have been available if the company hadn't liaised with the University. The ASTUTE team were also commended several times on their ability to deliver quality support and manage the projects well within the timescales and resources provided. Comments regarding some differences between commercial and academic operations were made which may have been to the detriment of some projects and not resulted in an exceeding of expectations, and on one occasion, a respondent stated that ASTUTE did not have the facilities originally proposed, and had to use the client resources. Economic climate was also noted as a reason for only meeting expectations as opposed to exceeding them – a factor over which ASTUTE have no control, but is bound to affect operations for all businesses.

Reasons why individuals felt the service exceeded expectations included the skills and expertise within the academic institutions, as well as the attitude and experience of ASTUTE staff. Strong collaboration and early identification of the problem were also hailed as key in exceeding the expectations of the client company engaging in a project. Signposting to alternate/complimentary supports was also recognised as a reason for the exceeding of expectations in relation to ASTUTE.

3.3.6.1 Project Success Perception Comparison

The matching response for each project from the perception of the ASTUTE Project Officers and the perception by the customers has been incorporated into the tables below together with any comments and reasoning offered.

Project	PO View	PO Perception	PO Reasoning	Client Perception	Client Comments
1	Very Successful	Met Expectations	The ASTUTE team achieved what they set out to do. The client was happy with the outputs and looking at undertaking future projects with ASTUTE.	Met Expectations	ASTUTE delivered what had been agreed on time.
2	Successful	Met Expectations	Phase 1 complete. Improvements identified. ASTUTE met all expectations – now looking to move onto next phase.	Declined to comment	
3	Very Successful	Met Expectations	Achieved objectives within the time frame. Positive collaboration – knowing and working well with individuals involved.	Exceeded Expectations	The efficiency improvements that the advisor suggested were appropriate for the work being undertaken by the workshop at this time.
4	Successful	Met Expectations	ASTUTE succeeded in the project as a solution was found to rectify company's issues. The company will consider the project to have met expectations as they have now adopted a new manufacturing system.	Not interviewed	<i>This company was not interviewed as a part of this process.</i>
5	Successful	Exceeded Expectations	Provided info required by co. The project produced the answers needed to drive further investment.	Met Expectations	Economic Climate

Project	PO View	PO Perception	PO Reasoning	Client Perception	Client Comments
6	Very Successful	Met Expectations	ASTUTE provided a supportive solution – but University based companies have high expectations and so are unlikely to say the project exceeded expectations to date.	Met Expectations.	
7	Successful	Met Expectations	ASTUTE proved product concept, prototype developed. Project defined was met, as agreed, but concept has only been proved – not commercialised.	Fallen Short of Expectations	Change of perception within ASTUTE to the project meant that the second part of the project was not pursued
8	Successful	Met expectations	Project more complex than originally envisaged but did achieve outputs. Company was happy with results.	Fallen Short of Expectations	Lack of understanding timeframes, lack of understanding our project and not reading work package documents carefully.
9	Neither successful nor unsuccessful	Fallen Short of Expectations	Design still needs to be proven. Scope of the project has changed.	Fallen Short of Expectations	The primary reasons for the Project falling short of expectations are that timescale has stretched (though this can be expected). The company representative is confident that the project will ultimately meet expectations and has been very impressed with the facilities ASTUTE has available. The contact also felt that the ASTUTE team are very nice to work with, but display little initiative when confronted by challenges, relying completely on the company for direction.

Project	PO View	PO Perception	PO Reasoning	Client Perception	Client Comments
10	Very successful	Exceeded expectations	Project provided evidence and info that the organisation wouldn't have been able to achieve alone. PO feels the project achieved more than was initially set out to achieve. Sufficient info to justify publication of the research.	Fallen short of expectations	The customer feels that the delays in working with suppliers overseas have contributed mainly to his opinion of the project falling short of expectations.
11	Successful	Met Expectations	Project is ongoing but successful to date.	Met Expectations	The main reasons for the project having met expectations is that the concept of having to learn theory being new to Swansea University.
12	Successful	Met Expectations	Some tweaks expected by the client, time were the main issue. Two projects with ASTUTE – first completed successfully, second is ongoing.	Met Expectations	
13	Successful	Met Expectations	Helped the business understand the main issues.	Met Expectations	The projects provided useful technical knowledge that will be useful to the company as it develops new products and new packaging for those products. It is anticipated that the shelf life of its product line, a key requirement, will be enhanced as a result of carrying out project with ASTUTE
14	Successful	Met Expectations	So far – ongoing project	Currently classified as an Assist	Ongoing project so too early to comment on the project success

Project	PO View	PO Perception	PO Reasoning	Client Perception	Client Comments
15	Successful	Exceeded Expectations	Model produced for the development. Project plan in place. Provided the customer with the platform to move forward. Recommended to Caerphilly Business Forum.	Currently classified as an Assist	Ongoing project so too early to comment on the project success
16	Unsuccessful	Fallen short of expectations	ASTUTE were unable to identify suitable alternative material to steel for the cost. No real solution identified. The project answered a question but co would state the project fell short of expectations.	Met Expectations	
17	Unsuccessful	Fallen short of expectations	Positive relationship but disappointing outputs in relation to the project. Client does not always actively implement suggested change. Exceptionally high expectations of the ASTUTE Programme in relation to how much they would manage. Misunderstanding of the amount/level of time to be spent on the project.	Fallen Far Short of Expectations	The project fell far short of expectations. More value would have gained if the money had been given directly to the company. There have been no real benefits achieved to date.
18	Very Successful	Exceeded Expectations	The company has received a lot more information that was originally expected.	Met Expectations	ASTUTE completed the project as agreed.
19	Neither successful nor unsuccessful	Fallen short of expectations	The project is still ongoing. PO feels that the customer will consider the project to have fallen short as the estimated timescales have been overrun.	Met Expectations	ASTUTE did not have the facilities required and had to use the client's, so the project only just met expectations.

Project	PO View	PO Perception	PO Reasoning	Client Perception	Client Comments
20	Successful	Met Expectations	Co identified source of problem and new process was launched. Solution was provided that did not involve heat exchanger replacement.	Met Expectations	
21			PO stated they have only just started working with them – aim for completion in Jan.	Met Expectations	We knew from the start that the idea was achievable.
22	Successful	Met Expectations	Recommendations have been made but the team cannot afford to implement them at present.	Met Expectations	Good ASTUTE team and Excel's managing director having a robust objective of continuous improvement
23	Very Successful	Exceeded Expectations	This will become a full project. Prototype is now to be produced and distributors are lined up. There is an ability to adopt the product, and it was engineered & manufactured in Wales.	<i>Not interviewed</i>	<i>This company was not interviewed as a part of this process.</i>
24	Successful	Exceeded Expectations	Project achieved everything agreed and provided value to company. New idea and process was generated and ASTUTE involvement will continue.	Met Expectations	We knew what we wanted to achieve and knew it was manageable.
25	Successful	Met Expectations	No Comments.	Too early to comment	Too early within the process to determine.
26	Successful	Met Expectations	New solutions identified. Solutions provided are yet to be proved.	Met Expectations	

Project	PO View	PO Perception	PO Reasoning	Client Perception	Client Comments
27	Very successful.	Met Expectations	MD very complimentary, FSG to be used as case study.	Met Expectations	ASTUTE did what was agreed and provided the solution needed.
28	Successful	Met Expectations	Project scope was set in collaboration with company and was fulfilled. Company is keen to scope project 2 in line with production schedule. MD stated findings from P1 were of interest and useful.	Fallen short of expectations	As a company, in a busy production environment have found it difficult to find time for our staff to work with the ASTUTE
29	Successful	Met Expectations	Sound progress made into resolving issues faced by the co. ASTUTE identified practical solution to issues.	Met Expectations	The project is still at a very early stage.
30	Neither successful nor unsuccessful.	Met Expectations	Project started but never finished. Initial discussions, suggestions for improvement. ASTUTE are not meant to compete with commercial organisations so ASTUTE withdrew.	ASSIST	Completed responses as an Assist and not as a collaborative R&D project.
31	Successful	Exceeded Expectations	The level and extent of support offered far exceeded original expectations.	Met Expectations	Timescales and approvals: previous projects may have fallen short. Front loaded enthusiasm for projects. Sheer volume of resource thrown out.

Project	PO View	PO Perception	PO Reasoning	Client Perception	Client Comments
32	Successful	Met Expectations	We were able to confirm that the concept was not feasible.	Fallen far short of expectations	This is not the fault of ASTUTE but my lack of time to spare on this project when faced with the choice of leaving other revenue generating work which I currently have on my books.
33	Successful	Met Expectations	Mission accomplished. Company is prepared to pay for next phase.	<i>Not interviewed</i>	<i>This company was not interviewed as a part of this process.</i>
34	Successful	Met Expectations		<i>Not interviewed</i>	<i>This company was not interviewed as a part of this process.</i>
35	Very Successful	Exceeded Expectations	Major problems in the organisation were resolved and had a high and positive impact on business. Major problems were resolved and project results would have high impact on production.	Met Expectations.	Good information
36	Successful	Met Expectations	Project is early stage, but so far successful.	<i>Not interviewed</i>	<i>This company was not interviewed as a part of this process.</i>
37	Very Successful	Exceeded Expectations	Value of the information provided exceeded expectations.	<i>Not interviewed</i>	<i>This company was not interviewed as a part of this process.</i>
38	Successful	Met Expectations	Achieved what the project set out to achieve. Grant secured, machine sourced and apprentice employed to manage new resources.	<i>Company did not complete R&D questionnaire</i>	

Project	PO View	PO Perception	PO Reasoning	Client Perception	Client Comments
39	Successful	Met Expectations	No Comments.	Classified as "Assist"	therefore was not asked to complete the Collaborative R&D Section
40	Very Successful.	Exceeded Expectations	Produced prototypes within the assist time. Reverse engineering support. PO feels the company would consider the project a success as they are now mass producing the product.	Classified as "Assist"	therefore was not asked to complete the Collaborative R&D Section
41	Successful	Met Expectations	Customer learned a lot and was able to see the issues associated with the product.		*Company believed to be dissolved
42	Very Successful	Exceeded Expectations	Achieved plan and the company is pleased with outcome. ASTUTE added value in areas the org could not have done themselves.	Exceeded Expectations.	Problems were recognised and sorted early.
43	Very Successful	Exceeded Expectations	ASTUTE provided a service they couldn't get elsewhere and considerable resource was provided.	Met Expectations	A good team from Swansea who are very knowledgeable and professional in their approach to this project.
44	Unsuccessful	Fallen short of expectations	Very little communication between ASTUTE and client. Have tried to maintain contact without avail.	Met Expectations	Project not completed because of changes within the business. This has not been the fault of ASTUTE.

Project	PO View	PO Perception	PO Reasoning	Client Perception	Client Comments
45	Very Successful	Met Expectations	All requirements agreed were achieved for the specific part of this project. Product successfully launched in the US Market.	Met Expectations	There was some value; but with reduced time involvement from the company the project would have been more cost beneficial.
46	Successful	Exceeded expectations	Identified real solution to the problem. Aided understanding of the impact of surface coating. Still needs to be proven commercially. Potential for significant savings, performance of products and saving of process time. Strategic impact on supply chain for Welsh Suppliers.	Exceeded Expectations	The main reason for the project exceeding expectations were the new skills brought to the project. In addition the ASTUTE team's understanding of the importance of feasibility phase added to the overall success of the project. They spent more time in that area (feasibility phase) which allowed for further development.
47	Successful	Met Expectations	Project achieved its objectives.	Declined to comment	Offered minimal information and declined to comment on the project
48	Very Successful	Exceeded Expectations	Project was success as the design was now passed on to the company, which now produces components via this process, which involves CAD.	Declined to comment	Declined to comment as the project was not for them but for a 3 rd party client
49	Very Successful	Exceeded expectations	Critical info was provided to the company and verified by external experts. The company are very reliant upon ASTUTE.	<i>Not interviewed</i>	<i>This company was not interviewed as a part of this process.</i>
50	Successful	Met Expectations	Completed the aims of the project by delivering a prototype.	Exceeded Expectations	Due to the high quality of the technical expertise involved I got more from ASTUTE than I expected.

Project	PO View	PO Perception	PO Reasoning	Client Perception	Client Comments
51	Successful	Met Expectations	Provided real solutions. Project is still ongoing.	Exceeded Expectations	The expertise has been of the highest standard and the work produced has been hugely beneficial
52	Successful	Exceeded Expectations	Initial contact between ASTUTE and Client was based on imaging only – ASTUTE then had to retreat when it became aware that the client was an inventor and he is tied to the product.	<i>Not interviewed</i>	<i>This company was not interviewed as apart of this process.</i>
53	Very Successful	Exceeded Expectations	Results obtained generated significant foreign interest. Data made contribution towards the filing of patents.	Exceeded Expectations	No Comment
54	Very Successful	Exceeded Expectations	No Comments.	Exceeded Expectations	The people - their attitude and expertise.
55			Limited information available as the Project Officer has now left the university. PO Questionnaire partially completed.	Met Expectations	The project is well run and making progress.
56	Neither Successful nor unsuccessful	Met Expectations	MD found the project interesting. Lots of ideas injected but the problem wasn't resolved due to MD wishing to retain traditional manufacturing methods.	Met Expectations	Academic timescale versus our business needs; some mismatch.

Project	PO View	PO Perception	PO Reasoning	Client Perception	Client Comments
57	Successful	Met Expectations	Provided the co with useful info and has led to potential new project to manufacture. Still further work to do.	Fallen Short of Expectations	The main reason for this is that there has only been one outcome of the project to date. Summer is not a busy time for the business, and they feel that they were not pushed as hard as they might have been.
58	Successful	Met Expectations	Ahead of the project through some pre-start work.	Met Expectations	
59	Successful	Met Expectations	Project was delivered as expected.	Met Expectations	Did what was asked.
60	Very Successful	Met Expectations	Led to a contract being won. "Excellent quality of work delivered in a timely manner."	Exceeded Expectations	Collaboration was very effective and led to a solution.
61	Successful	Met Expectations	Suitable design identified. High level of support offered should be appreciated by the customer.	Far Exceeded Expectations	Project Officer at Cardiff University has helped in all sorts of aspects from sourcing materials, testing, design and advising on patents
62	Very Successful	Exceeded Expectations	Company have returned for the 3 rd phase of the project. Alternative solutions were offered to the company, which PO feels would have made their experience more positive.	Exceeded Expectations	Began as a problem solving project but developed into a second phase of product and process development.

3.3.7 – Questionnaire Section 7 - General barriers to the business

When questioned, to what extent do the following issues form barriers to business development, individuals responded on a scale of 1 to 4 where 1 is low and 4 is high. The following elements have been put in order of the barrier which was most commonly identified as high. Time pressures, financial constraints, finding skills people and R&D investment requirements were all ranked highly – various

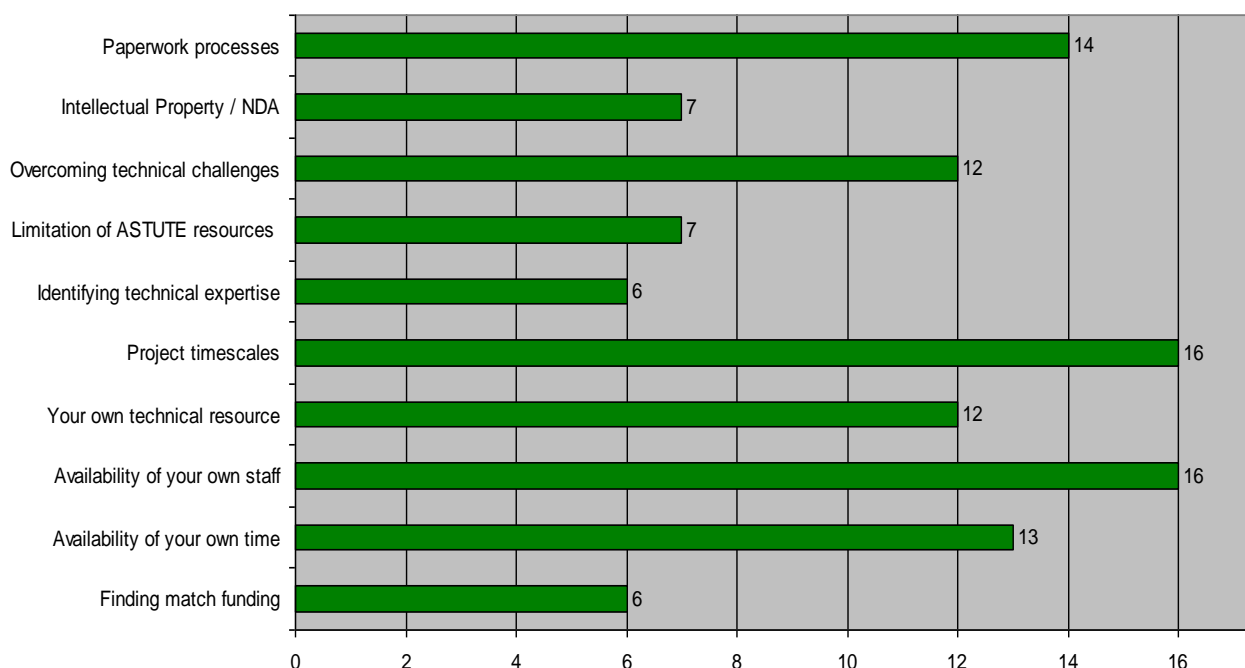
	Barriers (highest first, to lowest last).	1 low	2	3	4 high
1	Time pressures	14	17	28	58
2	Financial Constraints	23	25	29	40
3	Finding skilled people	25	23	38	31
4	Continuous R&D investment	27	31	31	28
5	Winning new business	27	32	30	28
6	Technical challenges	22	31	40	24
7	Knowing where to go to get assistance	33	40	27	17
8	Competition	35	37	30	15
9	Onerous legislation	44	32	29	12
10	Retaining skilled people	57	27	21	12
11	Speed of technical change	49	42	15	11
12	Retaining existing customers	67	30	13	7
13	Import of overseas products	82	12	15	8
14	Cultural pressures	82	20	10	5

For Collaborative R&D Project clients ONLY

Barriers to your collaborative project with ASTUTE

<i>Have you faced any barriers during your collaborative project with ASTUTE?</i>	YES	35	NO	11
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A high proportion of respondents did state that they faced barriers in relation to their engagement with ASTUTE and listed them as follows:

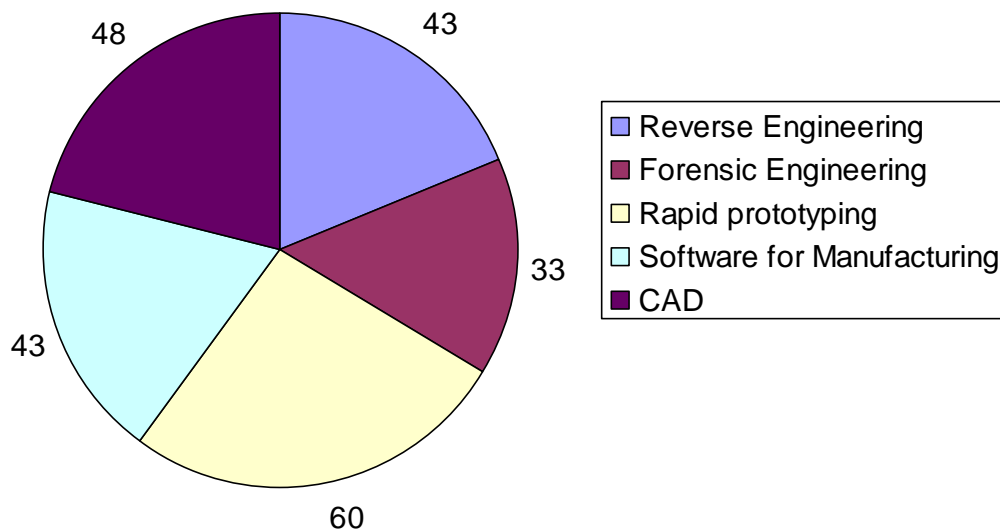


2 respondents stated that their geographical location had caused an issue, and one also stated that the contacts with Welsh Government overseas were not as good as had been promised, hence posed a barrier to developments.

It should be noted that there is no indication from any of the companies that collaboration or referral processes created any form of barrier. The exception to this was one company that commented that one weakness they saw was the logistics and travelling between different university locations and sites where more than one was involved in the project.

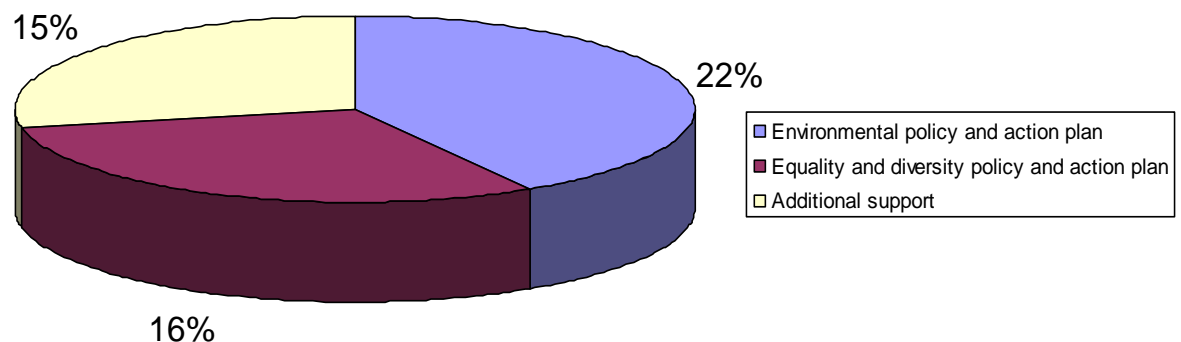
3.3.8 Questionnaire Section 8 – Further supports

41% of respondents stated there were other topics that they would appreciate ASTUTE exploring, and – when given options regarding update of information regarding different events – the results revealed an interest in the following areas.



Organisations also specified that they would be interested in attending events which would cover commercialisation of concepts – specifically marketing, training, sales etc.

Only 55% of respondents were aware that ASTUTE support was available to help organisations with Environmental and Equality and Diversity issues. The following percentage of respondents stated they would be keen on obtaining support in the following areas: Environmental Policy & Action Planning, Equality & Diversity Policy & Action Planning and Additional Support available.



96 out of 117 respondents would like to be informed in relation to the publishing of the research to which this report relates. Of the 117 respondents, the majority would prefer to be communicated with via email (95%) with the remaining few opting for telephone or post.

All participants of the research were offered the opportunity to make any final comments regarding ASTUTE and the support obtained/available. A plethora of suggestions and quality feedback was gathered which will support CIOTEK Ltd in making recommendations for improvement to the programme for the benefit of companies currently on the ASTUTE project, and for those who may engage in the support in the future. Sustainability and succession planning is key to ensure quality return on investment and a legacy for ASTUTE. There is undoubtedly strong support and evidence to suggest the programme has benefited numerous individuals and businesses to research, progress and grow.

In total, 83 comments were captured from participating companies in the interim evaluation. At the start of each evaluation, companies were assured that any information provided was in confidence and would not be attributed to them or shared with any third party. The nature of many of the comments are very specific to the project, and/or ASTUTE team members/universities, and therefore it is not appropriate to include and publish these in full. We have, however made these anonymous and included them in the preparation of the conclusions and recommendations.

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Conclusions and Recommendations

4.1 Conclusions

This interim report for ASTUTE provides a very different picture to the baseline review undertaken last year. The ASTUTE project was, at that time in its infancy of development and was still setting the foundation for intervention and supports. As with many projects of this ilk, only modest progress was achieved in the first six months whilst the delivery team and processes were being established and refined.

The progress subsequently has been more significant and discerning as the project has developed – gaining momentum from the successes achieved, and responding to feedback obtained to continuously improve and accommodate the changing demands of the market and client.

This interim evaluation has utilised both qualitative and quantitative research methods to gather evidence in relation to perceptions of the programme and resulting outputs experienced by the companies involved. The starting point for this exploratory review is to look at the criteria defined within the evaluation Terms of Reference issued in July 2012. The conclusions drawn in the following sections align with those defined in this document.

4.1.1 To assess to what level the project is meeting its original aims and objectives;

The aim of ASTUTE as defined in the original project application and remit is:-

To enable the manufacturing industry in West Wales and the Valleys to grow by adopting more advanced technologies, and at the same time improve its sustainability by reducing its environmental impact etc. This will be achieved by a partnership of Universities throughout Wales that will harness the engineering expertise within them for the benefit of the economic prosperity of the Convergence Region.

In respect of this, the evidence collected during the course of this interim evaluation confirms that this defined aim is being achieved. The focus of the project has been on the application of advanced technologies to introduce sustainable solutions within manufacturing industry in the convergence region. Knowledge, skills and expertise of academic staff and resources are being promoted to encourage engagement with commercial enterprise for strong dissemination of information, transfer of knowledge and participation in collaborative opportunities for mutual benefit. The partnership of Universities utilising their respective engineering expertise has developed and strengthened as the project has progressed. Active promotion of sustainable practices and a raised environmental profile has also formed a strong element of the ASTUTE programme – features which are recognised and appreciated as well as accepted and integrated.

The objectives of ASTUTE as defined in the original project application and remit to meet the challenges of growth and sustainability are as follows:-

- *Increase R&D, knowledge and the ability and quantity of the people employed as inputs.*
- *Increase quality (and quantity) of high-value, knowledge-intensive products output.*
- *Reduce the quantity of natural resources (raw materials and energy) consumed in producing each unit of useful output.*
- *Reduce, re-use and recycle waste and minimise emissions of CO₂ and other greenhouse gases.*

All of this must be achieved within a 'lean business' framework that requires optimal use of resources in all forms.

In respect of these objectives, the evidence collected during the course of this interim evaluation shows that the numbers of persons employed as a result of ASTUTE intervention has increased. The dissemination of knowledge and skills imparted as a result of the collaboration was also noted. 49% of participants listed access of research expertise as the primary reason for engagement with ASTUTE. Likewise, 49% of participants rated technical expertise as one of their current business development needs

Additionally measured feedback from the participant companies also highlights the defined objectives relating to product output, reduction in resources and minimisation of waste are all inherent within the solutions supported and implemented by ASTUTE.

In summary, from the evidence collected during the evaluation it can be confirmed that ASTUTE is achieving its original aims and objectives.

4.1.2 To report on the outputs and results achieved to date:

- Analysis level of SME vs. larger companies interactions;
- How the project is contributing to the cross cutting themes;
- Assess the quality of the collaboration and future growth potential of the company based on the interactions from the ASTUTE project.

Analysis of SME versus larger company interactions revealed that 112 of the 117 participating companies are SMEs with 5 being larger companies. Additionally however, 19 of the participating companies classified as SMEs employ between 120 and 220 persons. It should also be noted that all the larger company interventions are classed as Collaborative R&D Projects.

The ASTUTE support delivered has harvested a number of specific examples regarding how it is contributing to the cross cutting themes, and integrates the necessary processes to provide participating companies with action plans for improvement via implementation.

Feedback gained from participating companies relating to the quality of collaboration and future growth potential reveals the following pattern:

As a rule the assisted companies understand that the (Assist) intervention is an exploratory one. This is indicative of the improvement achieved by ASTUTE latterly in setting the customer expectations correctly. It is also acknowledged that the level of support (min 7 hours) would not usually lead to an increase in employment or impact in any measurable way on the future growth potential of the company. Analysis of the results confirms this and shows that the main source of employment and future growth potential has arisen and will arise from the collaborative R&D Projects undertaken by ASTUTE.

Detail on this may be seen in Section 3.3 of this report.

4.1.3 Comment on the appropriateness of the project indicators and the quality of the indicators achieved to date in line with the aims and objectives of the project and the ERDF indicator definitions;

The project indicators defined for ASTUTE are considered relevant and appropriate, given that the intervention is seeking to achieve measurable impact within the Welsh economy. Discussion with the partners reveals a high level of awareness of the indicators and targets along with a clear level of focus on these.

It is interesting to note that the partnership arrangement has had the effect of making each of the educational establishments more determined to meet (and beat) its targets than it would if the project was based at one institution. This determination to achieve and make a contribution to the overall targets strongly suggests that the indicators for ASTUTE will be achieved and in many instances exceeded.

4.1.4 Draw conclusions on how the project:-

...has stimulated ideas within companies, and assess to what extent these have developed into collaborative projects;

The feedback from the Institution Officers in respect of the projects completed/in progress revealed that 52 of the 60 clients have experienced changes or improvements as a result of engaging with the ASTUTE support.

This has been corroborated by feedback from the participant companies engaging in both Assists and Projects, with 95 of the 117 companies advising that their overall experience with ASTUTE was either good or excellent.

In addition the reasons for engagement with ASTUTE revealed 80 instances were cited of New Product/Process development and a further 57 indicating research expertise. In respect of current and future need, both these areas were cited by companies as being their current priorities and future needs.

It can be concluded, therefore, that the seeding of ideas during the Assist has been a fundamental source of collaborative R&D projects and remains as the conduit for engagement and delivering impact.

...has developed collaborative working between the university partners in order to meet the needs of businesses;

There is an open relationship between the university partners, with each eager to prove their contribution to ASTUTE. This has engendered a collaborative and non competitive ethos within ASTUTE with a focus on achievement.

The result of this is a willingness to engage in collaborative working. Interestingly this is apparent within the both the partners to the project having a larger proportion (Swansea and Cardiff) and those with a smaller involvement. The motivation for the larger partners is a clear determination to make the project a success and prove their value as the lead organisations. The motivation for the smaller partners is an equal determination to prove their value and worth and demonstrate their capability to achieve more should they be given a greater level of involvement (and budget).

...is integrated with other business support groups, including referrals to other structural funds projects;

Analysis of the Project Officers feedback reveals that there has been a relatively low level of referral to other business support groups. As discussed in 3.3.1, the requirements for investment in R&D and technical expertise requirements was highlighted as important to the organisations interviewed. Feedback obtained from project officers of collaborative R&D projects indicated that 51 out of 60 stated they had made no support referrals and 53 of the 60 stated they had not referred their client companies to any business support services. However, it is important to recognise these companies may have already been working with

support services, hence no requirement to signpost further. Indeed analysis of the company responses indicated that 48% are already working with other support groups. Details in Section 3.3.1 lists the support groups, Universities or Welsh Government programmes the organisation are engaging with.

Of the 61 companies not engaged with other support groups, 30 indicated that they would welcome information on other supports.

Integration with other support and referrals to other structural fund projects

As seen in Section 3.2 of this report, the majority of project officers stated that no referrals had been made to business support groups specifically. Furthermore the indication was that they expected only 3 out of the 53 business in this section to be referred to other business supports. This suggests that it might be valuable to raise awareness and impart knowledge in relation to what other support schemes are available and outline eligibility criteria so project officers can quickly and efficiently identify support and provide contact details/programme information regarding potentially complementary and funded services.

The consideration here is to ensure that the businesses are not swamped with information on supports and whilst some supports may be complementary to ASTUTE and should therefore be outlined at an early stage, there must be a consideration of not delaying projects whilst aspects outside the control of ASTUTE are pursued. It is suggested that a referral to other structural funds projects might be undertaken as part of a customer post project follow up meeting.

It should be noted that these referrals relate to ASTUTE Projects and Assists. There is a stage prior to this within ASTUTE relating to the project evaluation and assessment as to whether the project is appropriate and relevant to ASTUTE. There have been a number of instances where referrals have been made to private sector organisations (Particularly in instances where ASTUTE perceive it would be competing with a commercial provider) and also to other structural funds (where the profile of the business is more suited to an alternative project (LEAD, SEACAMS, CNH etc).

Other priorities and needs

Training and marketing were flagged up by numerous organisations who consider these priorities in relation to their current business needs. In addition businesses also stated that they were lacking skills in areas of marketing, commercialisation of concepts, and exploring the feasibility of various ideas. It is suggested that ASTUTE might look at some of the training funding available which may support the ASTUTE Project or Assist.

Exit Strategy and Legacy Impacts

In relation to the achievement of the final two objectives within the ASTUTE evaluation Terms & Conditions, these will be reviewed when developing the final evaluation report – hence, no discussion regarding exit strategy or legacy impacts has been included in this interim report.

4.1.5 Review the market need.

Is the market need the same now as it was when the project was developed?

Whilst the downturn has had an inevitable effect on businesses in making trading conditions more difficult and demanding, evaluation of the results of the evaluation reveals that the priorities and defined needs of businesses are unchanged from the inception of ASTUTE to the current time and into the future. The following table contains information extracted from the company feedback as detailed in Section 3.3 of this report.

	New Product/Process development	Access to technical expertise
Reason for engagement	80	57
Current business needs	84	57
Company priorities	75	44
Future requirements	72	58

These represent the two highest scoring responses in each instance (see below) and illustrate that the priorities and need is essentially unchanged from the start of the ASTUTE project through current business needs to future requirements.

- New Product/Process development
- Access to technical expertise

Are there likely to be changes in the market need during the remainder of the project?

None of the data collected from participating companies in this interim evaluation, as seen in the previous table, give any indication that the priorities and need of the market is changing significantly. However, the requirement for the ASTUTE project to take a more commercial driven perspective was prevalent and perhaps will become more so given the existing economic conditions. Both organisations and institutions recognised the need to continue shifting perceptions and enhance the collaborative opportunities through more positive reporting on the outputs of academic engagement. This forms significant linkages with the

demands of the organisations involved with ASTUTE Projects or Assists in the past. Feedback has occasionally highlighted disparities between expectation and achievement – citing timescales and over promised deliverables as root problems. The pressures on the economy, public purse and individual expectations will inevitably place greater emphasis on performance and a focus on commercially operating a public sector support to align with private sector enterprise demands.

Review the provision of expertise offered by each partner university against the needs identified by the enterprises assisted and R&D collaborative projects initiated to date;

In the formative stages of the ASTUTE project, it is clear that each of the partner universities identified prospective Assists and Projects with a less discerning eye than is currently demonstrated. As ASTUTE has progressed, the partners have become more discerning, increasingly collaborative and cooperative in their approach. At this mid point in the project there are improved referral processes and more open collaboration.

In particular the ASTUTE Skills and Experience Matrix (See Appendix B) provides a clear view of each of the partners' particular areas of expertise. This is a useful document for ASTUTE personnel and for prospective and participating companies to understand the range of skills available and versatility of the collaborative institutional relationship to bring in resources where projects demand additional skill/knowledge/expertise

The overall effect of this is that partners are now clear on the abilities and expertise within ASTUTE are can confidently establish effective collaboration and referrals.

In conclusion, the feedback obtained and results reported at the stage of the interim review show significant progress towards meeting the targets for both collaborative R&D projects and company Assists. The findings from the evaluation provide both qualitative and quantitative details of the interventions which serve to identify patterns as well as gather more in depth perceptions regarding the support provided. It is also clear that the reason for achievement lie in quality leadership, good management, capable skilled delivery staff, solid infrastructure, effective partner co-operation and the established processes within ASTUTE.

It is noted that considerable attention has been paid to addressing the areas of improvement identified in the baseline review – highlighting the benefit of research and data capture regarding support schemes at baseline, mid term and final stage. The ability to effectively manage change is a strong requirement given the frequency of evaluation – the programme of support needs to retain flexibility based on the reported outcomes so, in response to customer feedback

– ASTUTE can evolve and continuously develop to maximise performance and perception from the consumer point of view.

The customer facing aspect relating to Ease of Making Contact and Speed of Response have clearly been addressed and now score highly in the eyes of the customers, scoring a mean of 3.5 and 3.4 out a maximum possible of 4.0.

Additionally 95 of the 117 participant companies (81%) scored the overall experience with ASTUTE as being Good or Excellent with a mean of 3.1 out of a maximum score of 4.0

As a final conclusion to the programme performance to date, the successes should be used as a platform to further develop and enhance the supports and relationships with participant companies. There are inevitably areas for further performance improvement in both strategic and operational areas which have been highlighted in Section 3.3

The recommendations on how these might be addressed have been outlined in Section 4.2 of this report.

4.2 Discussion and Recommendations

The concept and strategic vision of ASTUTE are both seen as strengths. There are, however a number of aspects which could be developed and which will further strengthen ASTUTE.

This section has provided recommendations on potential changes or improvements that might enhance the ongoing positive impact of ASTUTE provide evidence for mid project funding decisions and form a base for future funding applications.

Vision and Strategy

Agree and document an unequivocal vision and strategy for the future. This should clearly state the objectives of ASTUTE for the remainder of the project and for the future (ASTUTE 2). This should be agreed by all partners and distributed to all stakeholders so they fully support and buy in to the stated goals.

Diversification Opportunity

In the longer term ASTUTE could consider taking a role as a Portal for all Academic/Industry supports in Wales. No such referral body of Portal exists in Wales currently and whilst this will inevitably be a separate project from ASTUTE or ASTUTE 2, it should access the best practice processes and successful combination of persons with a balance of academic expertise and commercial acumen to provide a service to industry in Wales that does not exist presently. There is still an unclear vision in the mind of customers as to the academic/industry supports available and their source and such a Portal would serve to address this shortcoming in Wales.

Currently, the plethora of public sector supports, whether from Local Authorities, Welsh Government, Higher Education/Further Education or private sector organisations often confuse or overwhelm individuals. More importantly there is no one body currently that has sufficient understanding of Welsh Government projects, Local Authority supports, academically based projects and supports or sector initiatives to adequately offer an advisory or signposting operation.

The diversification opportunity is based on the high quality, well established processes and procedures in place at ASTUTE for the analysis and evaluation of company requirements and project needs. This “Portal” was suggested, in particular for academic/industry initiatives and supports. This “Portal” could either be a part of ASTUTE 2 or it could be a separate project. It is true that a completely new or alternative portal could be established, however it was felt that best use of public money might be achieved by utilising these operational processes and the experience gained through the ASTUTE project to date.

One element of the ASTUTE activity which already illustrates the foundation for this are the specific examples of referrals made to alternative organisations, Universities and programmes. The ASTUTE evaluation and engagement document is proving to be an effective filtering, selection and signposting process for enquiries.

Re-profiling the ASTUTE project

Unsurprisingly, the measurable impacts from ASTUTE have arisen, almost without exception, from Collaborative R&D projects rather than from Assists. The opportunity in respect of this is to revisit the targets defined for Assists and Projects and to increase the number of Projects and decrease the number of Assists. Given that the targets for jobs created, investment induced etc were a combination of Assists and Projects, it is suggested that whilst this should not change, a re-profiling of this nature will increase the likelihood of ASTUTE successfully meeting all its defined targets and impacts.

In respect of this, it is important to recognise that the seeding of ideas during assists has been a fundamental source of collaborative R&D projects and should therefore remain as an introduction to potential collaborations coming forward. It is suggested that the focus however, should not be on achieving a high number of assists but on undertaking a sufficient number to seed and develop into collaborative R&D projects with greater impact. Accordingly, in order to support the achievement of these impacts, it is proposed that a greater number of Projects are undertaken and the number of Assists reduced in importance as a specific target.

Marketing

The marketing of ASTUTE is now seen by all stakeholders as becoming more effective and active over the past 12 months, with improved marketing materials, networking to key influencers (other WG programmes etc) and use of social media etc.

There is still however, an uncertainty in the mind of some customers that the source of the support is ASTUTE. In general participant companies were aware of the University by whom they had been supported but the interviewers reported that many of the Assists needed a reminder about ASTUTE. This is exacerbated by the plethora of seminars, workshops and other initiatives and multiple programmes that exist within every Welsh University in addition to those organised by the Welsh Government and other Wales groups and organisations.

Additionally, it seems that there is a need to reinforce and remind key persons at all levels of the project of the documented ASTUTE marketing strategy that exists

for the programme and the messages promoted. Whilst this has been shared with partners and presented to them in the past, it is recommended that this activity takes place again to ensure that all partners and their staff are clear on the marketing message and processes that exist within ASTUTE. It is also an opportunity to encourage feedback from project officers and institution representatives from other geographical areas in relation to what works in their region. A reminder to all partners of the facilities within the members' area of the website would also be useful. An additional process that could now be included in the marketing strategy is the proactive requests for referrals from satisfied participant companies. Additionally it is suggested that (with approval from individual companies) some of the many positive comments given by companies during the interim evaluation process could be used as testimonials and case studies promoted in ASTUTE literature to highlight the positive outputs and achievements of the support provided.

Communication

Whilst communication was generally seen as being clear and effective, there are still opportunities for improvement between project officers. It is suggested that a more open and consultative approach be adopted with Partners, Project Officers and WEFO. In particular, involvement of all of these in helping to define the Vision and Strategy would ensure all parties are informed and aware of goals, shared targets, partner strengths and ongoing development proposals for the programme.

Research papers

The ASTUTE project should now be considering opportunities for Research Papers and Case Studies from some of its successful projects. This inevitably provides value to those considering engaging in the ASTUTE support, and enhances credibility of the scheme in relation to achievement of outputs.

Additional Collaborative activities

There is an opportunity for ASTUTE partners to collaborate more closely with some of the existing funded projects within HE institutions in Wales and Welsh Government. Within both aforementioned establishments/organisations there is a limited understanding of the projects and supports available and frequently a misunderstanding of the resource provided by each project and initiative.

One of the unique aspects of ASTUTE is the combined academic and commercial experience of full time Project Officers which is recognised and

appreciated by client companies who engage in the ASTUTE support. As a key strength, there needs to be consistency in the skills, knowledge and expertise of project officers.

A second is the collaborative ethos that has been established between the partners with active referrals and combined resources when deemed relevant.

Company Engagement

It is recommended that ASTUTE ensure that the selective engagement processes that have latterly proved effective in evaluating and validating the Assist or Project support request is embedded within the processes at all partners. (Appendix A) This will continue to ensure that the profile of the companies and support is appropriate and that companies have the resource and ability to work collaboratively with ASTUTE. In respect of this it is important to recognise that research and development is not an automatic solution to the issues of industry. Companies often approach ASTUTE and academia because they are unable to find a solution to a problem from within their own resource. It is imperative that expectations are set and managed effectively and company representatives are aware of these issues before embarking on a Project.

Follow up support

Introduce a more proactive follow up process and integrate review meetings with companies at defined periods after Project completion, to ensure impacts are quantified and captured. This gives further opportunity to obtain feedback, respond to requests and retain a strong ongoing loyal relationship with that organisation.

Planning for the future

The annual meeting of all partners is an ideal opportunity to review progress to date, share experiences, refine and improve the services offered based on experiences and to plan for the future in a collaborative environment. The physical bringing together of the teams is a valuable process to reinforce the vision and message and actively encourage collaboration.

The planning for ASTUTE 2 should be undertaken at the earliest possible stage to ensure that a plan is in place which enables continuity and provision of assurance to key staff. There is a track record of projects and initiatives in Wales (not just HE projects) which end, fragment and are then re-invented and re-launched after a prolonged review which concludes that they were successful. This re-invention does not make best use of public funds and inevitably the loss in confidence resulting from the gap in service and support provision takes considerable time to repair.

Whilst ASTUTE need to be bold in their ambitions and committed in their determination to develop and improve academic/industry and inter-partner collaboration; WEFO need to be equally committed in recognising the successes and achievement to date and plan accordingly in advance to support this successful programme without a “break in transmission”.

Additional Partner involvement

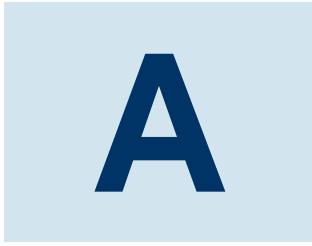
There was no indication from any partner or company that the project would be strengthened (or weakened) by the inclusion of the University of Glamorgan. The ASTUTE partners are all involved by invitation and through their willingness to collaborate. It is understood that Glamorgan were twice invited to participate and twice declined to be part of this collaboration. With the recent merger between Newport and Glamorgan one could argue that Glamorgan is in effect now part of ASTUTE.

It is suggested that it would be wrong to force or cajole any reluctant University to join any programme (including ASTUTE 2), and it is suggested that as a first step that all potential partner Universities in Wales (including the University of Glamorgan) might be invited to outline the expertise they feel that they could bring to ASTUTE 2 and the collaborative opportunities and additionality that their inclusion would bring.

With the amalgamation of Newport University and the University of Glamorgan, it should be incumbent upon both Swansea as the lead partner and Newport as a successful smaller partner to engage the University of Glamorgan to join the collaboration at the next stage.

Manufacturing Centre

With the advent of the new Swansea campus, there is a one off opportunity to establish a Centre for manufacturing support in Wales and with the country lagging behind the rest of the UK in its manufacturing output, a facility with a dedicated building and resources would be a clear statement of Wales’ ambition to bridge this gap.



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Project Proposal Form
(Evaluation & engagement documentation)



Project Proposal Form



ASTUTE is a collaboration project between Swansea University, Aberystwyth, Bangor, Cardiff, Glyndŵr, Cardiff Metropolitan, Swansea Metropolitan and UW Newport to support manufacturing industry across the Convergence Area of Wales.

Proposed Project Title ¹		
Short Title ² & ID ³		L _____

ASTUTE HEI	Leader ⁴	PI ⁴

Enterprise Name ⁵	Unitary Authority ⁶	Serial No.
		E _____

Brief Project Summary

Total Input Costs for ASTUTE (excluding ASTUTE overheads)	£
ASTUTE Overheads	£
Total Input Costs for ASTUTE (including ASTUTE overheads)	£

Predicted Targets to be achieved within the Convergence Area of Wales				
Target		Number/Value	By When?	Comments/Certainty
Jobs Created				
Investment Induced				
Products, Processes or Services	Registered			
	Launched			
Environ. Management Systems				
Equality Strategies				
Enterprises Created				
Enterprises Assisted				
Collaborative R&D Projects				

Is the project likely to involve more than one Enterprise and/or University?	Yes / No
Is this project likely to develop into a larger project	Yes / No
Is this project related to any other project that you are aware of?	Yes / No

If the answer to any question is yes, please append details.

<p>Technical Scope - description of the Project & details of assistance/collaboration sought</p> <p>Section 1: Technical Goals</p> <p>Section 2: Dependencies</p> <p>Section 3: Project Plan</p> <p><i>A Gantt chart should be provided for projects over £10k. This may be subject to alteration over the duration of the project. Minor exceptions need only the agreement of the company and the project staff. Major exceptions to the project plan will require the authorisation of the ASTUTE Project Director</i></p>

<p>Brief Description of Inputs⁷ <i>(Please use these to estimate Total Input Costs on front page)</i></p> <p><i>If the project is approved, both parties will need to provide separate and transparent accounting records to verify these contributions throughout the course of the project. Default in this respect may jeopardise ownership of outcomes including IP, may result in reports being withheld, and/or may result in the project being undertaken on the basis of contract research.</i></p> <p><i>It will be assumed that the quarterly profile of inputs from both parties will be approximately constant over the duration of the project for both parties, unless otherwise stated in this proposal.</i></p>		
	From the Enterprise	From ASTUTE
Estimated staff time input required and actual salary costs (excluding overheads). If specialists are needed please indicate.		
Equipment		
Consumables (incl.VAT)		
Other e.g. travel costs		
Total Costs (excl. overheads)		

See note⁸

Expected Technical Outcomes (please see disclaimer at the end of this form)

Is it expected that any of the outcomes will be published? If so, please give details
Please note this section is optional, it will not form part of the project assessment process. In any case, permission of the company will be sought prior to publication.

Which mechanism is proposed?	Collaborative R&D Agreement / De Minimis
------------------------------	--

If a Collaborative R&D agreement is proposed, how will the outcomes, including any Intellectual Property, be allocated? (This is to comply with State Aid legislation) ⁸

Item	% Owned by Enterprise	% Owned by ASTUTE

If a De Minimis Project is proposed, please provide ID numbers of De Minimis Forms and append these to the proposal ⁹

Duration of the project and any milestones

Further Comments – Please append any additional information relevant to the proposal here:
(This could include a description of the economic benefits to the Convergence Area if this is not obvious)
Please also provide contact details for the enterprise and ASTUTE personnel involved.

Disclaimer: It is understood that the above AT PRESENT does not form part of any contract and does not imply any commitment on behalf of the ASTUTE project, any of the Partners, or the Enterprise.

If the proposed project is approved, it is understood that it may then be necessary to sign an agreement that references this proposal as part of a subsequent contract.

Data Protection: Your information will be added to a database which will be used to pass information to the Welsh Government and the European Commission, for project monitoring and audit purposes under the Data Protection Act 1998.

This proposal provides value for money and falls within the ASTUTE strategy for the HEI

Signed: _____ Name: _____
Date: _____

The above statement should be signed by one of the following: ASTUTE Director, Deputy Director or Lead PI at a non-Swansea ASTUTE partner University.

Projects over £ 10k will require further approval at OMG/EMC level.

Once the above statement has been signed, the following should be signed by the Enterprise.

On behalf of the Enterprise, I am satisfied with the contents of this proposal. If the project is over £10k I understand that further approval will now be required.

The enterprise will provide **written evidence of contributions to the project every three months**. If this evidence is not kept up to date, I understand that:

- The University may be forced to withhold reports and/or other presentations.
- The outputs (including IP) that the enterprise could benefit from could be put in jeopardy. The University may be forced to claim all the outputs, including all IP.
- The enterprise may be asked to pay cash for the costs incurred by the University in running the project. In effect this means changing the mechanism of operation to Contract Research.
- The University may be unable to consider further projects with the Company.

The enterprise will provide **written evidence of results achieved** as itemised in the section "Predicted Targets to be achieved within the Convergence Area of Wales" at the front of this form. If the results are significantly below the anticipated targets then the enterprise will participate in an evaluation exercise to document the reasons for any under achievement.

Signed: _____ Name: _____
Date: _____

When this form is complete, please provide a copy for the Enterprise. Then forward it to the local co-ordinator for ASTUTE at the HEI. Please append Enterprise Assisted Forms completed thus far, for the companies concerned (even if the 7 hours has not yet been achieved).

For use by the ASTUTE Project Office:

Reference numbers of any previous proposals	
---	--

Project Number allocated to this proposal on approval	
---	--

Received by local co-ordinator of the HEI	
Date:	Signed:
Action Required:	

The approval process is governed by the “*Total Input Costs for ASTUTE (including ASTUTE overheads)*” highlighted on the front page.

Proposals under £10k can be approved by the lead Principal Investigator (PI) of the HEI.

Proposals over £10k also require OMG approval, and those over £60k both OMG and EMC approval.

The local co-ordinator should forward ALL Proposal forms REGARDLESS OF THEIR VALUE electronically to the ASTUTE Project Manager, Dr Brett Suddell, B.C.Suddell@swansea.ac.uk at the ASTUTE Project Office in Swansea, along with the relevant Enterprise Assisted Forms.

Proposal and EAFs Received by Project Manager/ Member of Lead Team	
Date:	Signed:
Action Required:	
Approved by OMG	
Date:	Signed:
Approved by EMC	
Date:	Signed:
Further Actions Needed or comments:	

Guidance Notes

Sections **shaded dark** should be filled in by the ASTUTE office.

¹ The proposed project title is compulsory.

² An optional shorter title can be included if desired.

³ The ID of the proposal will commence with a letter L, followed by a letter signifying the HEI partner (A = Aberystwyth, B = Bangor, C = Cardiff, G = Glyndwr, M = SMU, N = Newport, S = Swansea Technical Delivery, U = UWIC, X = Joint or other). This will be followed by three numerical digits allocated **only by the appointed co-ordinator of the HEI concerned** (to ensure a unique number for each proposal).

⁴ The leader and PI at the proposing HEI should be specified as soon as they are known.

⁵ Extra rows can be added if more than one HEI and/or enterprise is involved. The first named in each case will normally be assumed to have overall responsibility.

⁶ Unitary Authority of the Enterprise should be selected from one from the lists below. If the enterprise is outside the Convergence Area, a clear explanation should be provided as to how the project will provide economic benefits to West Wales and the Valleys.

Within the Convergence Area of West Wales and The Valleys:			
Blaenau Gwent	Bridgend	Caerphilly	Carmarthenshire
Ceredigion	Conwy	Denbighshire	Gwynedd
Isle of Anglesey	Merthyr Tydfil	Neath Port Talbot	Pembrokeshire
Rhondda Cynon Taff	Swansea	Torfaen	
Outside the Convergence Area:			
Cardiff	Flintshire	Monmouthshire	Newport
Powys	Vale of Glamorgan	Wrexham	Outside of Wales

⁷ "Brief Description of Inputs"

- The enterprise overheads are not required here.
- "Separate and transparent accounting records" to verify the contributions. This could take the form of a written confirmation of the method used to calculate these figures and/or timesheets and payroll records, plus receipts / invoices for consumables etc.
- For the purpose of determining relative contributions of the parties to the activity, indirect costs such as overheads will be excluded.

⁸ For projects with Collaborative R&D agreements, the outcomes, including any IP, should be allocated in proportion to the inputs. In most cases we recommend these inputs should be equal shares (without overheads for either party). However, in order to determine the level of authority needed for project approval, the overheads for the ASTUTE staff must be included.

⁹ For projects carried out under De Minimis, the enterprise concerned should first complete a Collaborative R&D Project under the provisions of De Minimis Aid Form confirming they are eligible to receive help under this mechanism.



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Appendix B

ASTUTE Skills and Expertise Matrix (from Marketing Materials)



ASTUTE Skills and Expertise



ASTUTE is aimed at the manufacturing industry in the Welsh convergence area and is part-funded by the European Regional Development Fund through the Welsh Government. There is no specific cash requirement to get involved with the project - just a time and materials commitment to work with us to develop potential new processes and products to increase your competitiveness.

ASTUTE Skills & Expertise

	Aberystwyth	Bangor	Cardiff	Cardiff Metropolitan	Glyndŵr	Newport	Swansea	Swansea Metropolitan
Product Design & Innovation								
Computational Modelling								
Rapid Prototyping								
Electronics/Photonics								
Software								
Materials								
Process Routes								
Process Modelling								
Destructive Testing								
Non Destructive Testing								
Recycling Technology								
Logistics/Supply Chain Management								
Robotics								
Additive Manufacturing								
Lean Manufacturing								



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Appendix C

ASTUTE Aims and Objectives
(as defined in the ASTUTE Business plan)

ASTUTE Project Aim and Objectives

The Aim of ASTUTE

We can state the aim of the proposed project as follows:

To enable the manufacturing industry in West Wales and the Valleys to grow by adopting more advanced technologies, and at the same time improve its sustainability by reducing its environmental impact etc. This will be achieved by a partnership of Universities throughout Wales that will harness the engineering expertise within them for the benefit of the economic prosperity of the Convergence Region.

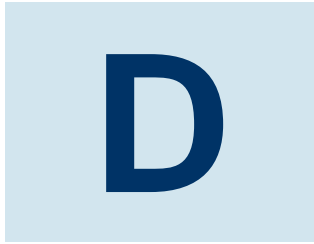
Objectives of ASTUTE

Manufacturing can be considered in the simplest sense to consist of two sets of inputs and two sets of outputs as shown in the diagram below. Inputs can be divided into (i) people, knowledge and R&D activities and (ii) raw materials and energy. Outputs can be grouped as (i) the useful products that are generated from process and (ii) the unwanted outputs of waste material and emissions.

To meet the challenges of growth and sustainability it is necessary to:

- Increase R&D, knowledge and the ability and quantity of the people employed as inputs.
- Increase quality (and quantity) of high-value, knowledge-intensive products output.
- Reduce the quantity of natural resources (raw materials and energy) consumed in producing each unit of useful output.
- Reduce, re-use and recycle waste and minimise emissions of CO₂ and other greenhouse gases.

All of this must be achieved within a 'lean business' framework that requires optimal use of resources in all forms.



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Appendix D

Standard Operational Procedures for ASTUTE Staff

STANDARD OPERATIONAL PROCEDURES FOR ASTUTE STAFF

ASTUTE INTERNAL USE ONLY

Cardiff Metropolitan University
Prifysgol Fetropolitan Caerdydd
— **UWIC** —



Swansea University
Prifysgol Abertawe

University
of Wales,
Newport

Prifysgol
Cymru,
Casnewydd

PRIFYSGOL
glyndŵr
UNIVERSITY

PRIFYSGOL
ABERYSTWYTH
UNIVERSITY



PRIFYSGOL
BANGOR
UNIVERSITY



SWANSEA METROPOLITAN UNIVERSITY
PRIFYSGOL FETROPOLITAN ABERTAWE

CARDIFF
UNIVERSITY
PRIFYSGOL
CAERDYDD

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1. ASTUTE Standard Operational Procedures

1.1 Project Development Process

[1.2 Scoping and Enterprise Assist](#)

1.3 Project Proposal and Approval Process

1.4 Mechanism for Project Interaction

[1.5 Project Delivery and Collection of Evidence](#)

1.6 Project Completion and Evaluation

1.7 Marketing ASTUTE

1.8 Claim Process

1.9 ASTUTE Audits

2. ASTUTE Forms

2.1 [Scoping and Enterprise Assist](#)

Non-Disclosure Agreement

Enterprise Assisted Form.....

2.2 [Project Proposal](#)

Project Proposal Form

2.3 [Mechanism for Project Interaction](#)

SME Collaboration Agreement

Collaboration Agreement

De Minimis Form

2.4 [Project Delivery and Collection of Evidence](#)

Company Contribution Form.....

Project Progress Report.....

Job Created Form

New Enterprise Created Form

Investment Induced Form

Products, Processes or Services Form

Cross Cutting Themes Form.....

2.5 [Claim Process](#)

Claim Form.....

Progress Report

2.6 Project Completion and Evaluation

Completion Report

De Minimis Completion Letter confirming De Minimis Aid received.....

2.7 Marketing

[Partner Referral Form for Events/PR](#)

3. ASTUTE Main Contact List

3.1 Swansea Lead Support Team

3.2 General Point of Contact within Lead Team for Partners

3.3 Principal Investigator Contact at Each Partner Institution