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Summative Assessment
SABRE Programme – Extension
University of the West
of England, Bristol

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Executive Summary

Introduction

Following successful completion of the original SABRE Programme in September 2021 the Programme was extended to 30 June 2023. Paula Rogers Consulting was commissioned in December 2022 to undertake a Summative Assessment of this extension period.

A documentation and data review was undertaken to provide an understanding of SABRE 2's:

- Aims and objectives
- Delivery management, activities and delivery structure; and
- Impact in terms of forecast and achieved spend and outputs

Face to face Teams Meetings were conducted with the SABRE Project Team and E-surveys were disseminated in February 2023, via email, to the introductory workshop beneficiaries (17) and mini TDP/TDP beneficiaries (23) supported up to that time. Overall, 20 completed surveys were received, representing 50 percent of the beneficiaries. Following completion of the surveys, an economic impact assessment was undertaken.

Relevance and Consistency

Following SABRE 1, the Programme continued to attract businesses that had not accessed similar support before. The demand for robotic/automation specialist support from within the Programme area has outweighed the resources available. The Programme Delivery Team also received enquiries from other areas across the UK.

The Team reflected positively on how the Programme had refined the workshop delivery and TDPs to manage business expectations and to de-risk the Programme. A workbook was developed for the workshops and TDPs were split into mini TDPs (12 hours) and full TDPs (five days up to 12 weeks). The Team identified some limitations of the support available, including only being able to work with individuals, rather than a team of people from a business and, the lack of time and resources available to provide more workshop topics. Similar to SABRE 1, members of the Team felt that the availability of financial assistance towards robotic/automation equipment would have encouraged more businesses to invest and progress to the TDP stage.

Progress

The overall spend target for SABRE 1 and SABRE 2 is £1,820,295, comprising £910,135 ERDF (50 percent) £672,933 public match (37 percent) and £237,227 private match (13 percent). Up to 31 December 2022 Programme expenditure totalled £1,583,150.86. By 30 June 2023, the forecasted total Programme expenditure is £1,794,727.16, accounting for 98.6 percent of the overall contracted spend. At the time of writing the Final Summative Assessment (March 2023) the Programme had met its private match funding target.

The COVID-19 pandemic and its continued disruption impacted on the delivery of the Programme from October 2021 until October 2022. During this time workshops were unable to take place at the RIF and access to the laboratory (for staff and businesses) was restricted. Despite the disruptions, SABRE 2 has performed well against its output targets, with all outputs (apart from C8 employment increase) forecasted to deliver or exceed the 30 June 2023 target. COVID-19 had (and continues to have) an impact on businesses with many unable to invest time and resources

in their business and to employ new staff. Despite this, the Programme is forecasting to achieve 67 percent of its target for creating new jobs (C8).

Delivery and Management

All internal consultees commended the management of SABRE 2, recognising the experience and abilities of all of the staff, with an excellent combination of skills. SABRE 2 also benefitted from having access to MOD Graduates, that were able to provide additional hands-on support to beneficiaries.

The Strategic Board's purpose, responsibilities and relevance was unclear with a lack of strategic support or direction. Interaction with The West of England Growth Hub and The West of England Combined Authority (WECA) continued to be poor throughout SABRE 2 delivery. Although the Programme has engaged with WECA, through its partnership with NCC, it did not engage directly with either organisation. As a result, it is likely that awareness raising, business education opportunities and potential sources of match funding for businesses have been missed.

Workshop respondents generally agreed that the workshops were delivered well, the numbers attending were appropriate and the workshops were accessible. The majority of respondents agreed that the workshop staff understood and met their needs. One of the key successes identified by the Team was the introduction of a workbook, allowing delegates to progress at their own speed, providing more detail for those with a prior knowledge and basic guidance for those new to the concept of robotics/automation in the workplace.

All TDP respondents agreed that the technical support and advice provided met their needs and the length of time spent on their project was sufficient. The majority of TDP respondents agreed that the format of the TDPs worked well and that researchers and staff met their needs. One of the key successes, identified by the SABRE Team, included splitting the TDPs into two packages of support (i.e., the first being 12 hours, with the second being able to increase support to five days and beyond). This helped to de-risk the Programme and enabled engineers to commit more time to projects that could provide capital match funding.

The resources available limited the potential scope of the workshops. It was considered by some members of the Team that the 'Introduction to Robotics' workshop had been exhausted and that a greater variety of workshops could have provided a more targeted level of support. It was also recognised that since COVID-19 businesses have been more hesitant to spend, with some businesses unable to commit capital investment in robotics/automation and therefore unable to progress onto a full TDP.

The horizontal themes were revisited as part of the SABRE 2 Summative Assessment. The Programme has worked hard to reach out to women and ethnic minority groups through different business networks. The Programme recorded 23 percent of its beneficiaries were females. Although it was recognised that there was greater representation of beneficiaries from ethnic minorities post lockdown, there was no documentary evidence to support this. Similar to the recommendation in SABRE 1, it would be helpful in future to capture this information, as well as beneficiaries with a disability, to ensure inclusivity and accessibility.

Outcomes and Impacts

SABRE 2 workshops and TDPs continued to increase business interest in research and innovation, enabled business relationships with other attendees and built new connections with the

university, Bristol Robotics Laboratory (BRL) and/or local institutions. In addition, Technical Development Project (TDP) respondents had increased their knowledge, skills and awareness of robotic automation technologies and applications. Following the support, most of the respondents were in the process of integrating robotics and/or automation or undertaking further research to help them to decide. One workshop beneficiary and five TDP beneficiaries had already invested in new capital equipment within their business.

An economic impact assessment was undertaken for the combined SABRE 1 and SABRE 2 Programme. The impact assessment considered additionality factors and applied a multiplier effect concluding that, up to 31 December 2022, the Programme had created 3.7 FTE net jobs resulting in £214,067 GVA. The SABRE Programme is forecasted to create 7.3 net FTE jobs resulting in £400,690 GVA by 31 December 2023.

Similar to SABRE 1, the SABRE 2 TDP survey asked beneficiaries what would best reflect their position in the absence of SABRE 2. All respondents felt they would not have achieved the same outcomes as quickly or to the same scale and quality without the support.

Assessing Value for Money

The measurements for value for money have been updated since the SABRE 1 Summative Assessment, to provide an overall calculation for SABRE 1 and SABRE 2 based on new FTE jobs forecasted to 31 December 2023. In terms of efficiency, the SABRE programme remains more than twice as efficient compared to the mean performance across other national projects.

The forecasted Return-on-Investment (ROI) figure to June 2023 (£0.45) is considerably higher than ROI figure reported in March 2021 (£0.26). Despite the ongoing disruption of COVID-19, and the period of economic uncertainty that followed, the Programme is continuing to make a positive contribution to economic growth.

Recommendations

Grant recipient (UWE) - considerations for future iterations:

- Build a collaborative relationship with the West of England Combined Authority and its Growth Hub to help raise awareness, understand business education opportunities and coordinate with other business support projects that could provide potential sources of match funding for business investing in robotics/automation
- Review the structure, membership and purpose of the Programme's Strategic Board so that it has a defined and well thought out role, providing overall direction of the Programme and its strategic priorities
- Capture ethnicity and disability data going forward, to ensure inclusivity and accessibility.

Those designing and implementing similar iterations:

- Constantly review and refresh the offer to businesses, particularly workshop content, to ensure it remains relevant and sustains business interest
- Allow a flexible delivery approach that can reflect the changing needs of business and the ongoing development of robotic/automation capabilities

- Consider the inclusion of a capital grant scheme that will provide an incentive for businesses to invest and optimise the outcome of the support provided

Policy Makers:

- The SABRE Programme is an excellent example of innovation led growth and there continues to be a high level of demand from businesses within the West of England and across the UK. Investment in this area of work is critical to ensure businesses understand robotic/automation capabilities and how it can drive efficiency and sustainability and transform a workplace
- The support on offer through the SABRE Programme is scalable and, with sufficient resources, it is capable of working across a much larger geography
- Encourage local government authorities to work closely with business support providers within their areas, to offer ongoing support and encourage business referrals between providers.

1. INTRODUCTION

- 1.1 In March 2020 ERS Ltd was commissioned by University of West of England, Bristol, to undertake a Summative Assessment of the Smart Automation for Businesses, Researchers and Entrepreneurs (SABRE 1) Programme, part funded by the European Regional Development Fund (ERDF). The SABRE 1 evaluation covered the period from 1 July 2018 to 30 June 2021. The SABRE Programme was initially extended to 30 September 2021, to provide more time for the original Project to allocate its spend and outputs. The original Programme is referred to as 'SABRE 1'.

On completion of SABRE 1, the Programme was extended from 1 October 2021 to 30 June 2023. The extended Programme is referred to as 'SABRE 2'. Paula Rogers Consulting was commissioned in December 2022 to undertake a Summative Assessment for SABRE 2.

A Technical Note is provided, to be read alongside the original Summative Assessment prepared by ERS Ltd. The Technical Note follows the same format as the SABRE 1 Summative Assessment and it updates paragraphs where additional analysis, relevant to the extension, has been undertaken. Paragraphs that remain the same are noted as being 'no update'. For comparison purposes, the tables, figures and charts have the same reference number and title as those provided in the SABRE 1 Summative Assessment (with 'ext' included to differentiate between the two Summative Assessments).

- 1.2 A Project Change Request (PCR) was submitted to Ministry of Housing, Communities & Local Government (MHCLG) and approved in September 2021. The PCR provides budgets for SABRE 1 and SABRE 2. The overall budget (i.e., SABRE 1 + SABRE 2) is £1,820,295. The total budgets (split between ERDF, Public and Private match funding) is provided in Table 1.1 (ext).

Table 1.1 (ext): SABRE 1, SABRE 2 and Total Budget

| | SABRE 1 (1.7.2018 – 30.9.21) | | SABRE 2 (1.10.2021 – 30.6.2023) | | Overall Total (1.7.2018 – 30.6.2023) | |
|------------------------------|---------------------------------|-------------|------------------------------------|-------------|---|-------------|
| | £ | % | £ | % | £ | % |
| ERDF | £534,693 | 50% | £375,442 | 50% | £910,135 | 50% |
| Public Match Funding | £447,718 | 42% | £225,215 | 30% | £672,933 | 37% |
| Private Match Funding | £87,000 | 8% | £150,227 | 20% | £237,227 | 13% |
| Total Budget | £1,069,411 | 100% | £750,884 | 100% | £1,820,295 | 100% |

- 1.3 No update

Smart Automation for Businesses, Researchers and Entrepreneurs (SABRE)

- 1.4 No update

- 1.5 No update

Programme Delivery and Structure

- 1.6 No update

Introduction to Robotics

- 1.7 During SABRE 2, MOD Graduates, on six-month placements within the Bristol Robotics Innovation Facility (RIF), were involved in the delivery of the SABRE 2 workshops. Numbers of graduates that supported the workshops ranged between two to four at any one time. It was felt, by different members of the Team, that the hands-on support the graduates provided, enabled the workshops to be delivered to a much higher standard.
- 1.8 The workshops were refined during SABRE 2 to include more of a focus on integration. Conveyors, vision systems, tool changers and new grippers were included in the exercises, alongside the industrial robotic arms, to enable beneficiaries to experience the process of integrating different technologies into an automated/robotic cell, and to give them an insight into the concept of 'Industry 4.0' and digital connectivity. A new workbook was also introduced to address the different levels of expectations and prior knowledge that were identified as challenges during SABRE 1. These challenges are noted in paragraph 4.22.

The workbook allowed all delegates to progress, at their own speed, providing more detail for those with a prior knowledge and basic guidance for those new to the subject. The workbooks enabled delegates to continue learning once they had completed the workshop. In addition, after completing the workshop, SABRE engineers supplied beneficiaries with additional information, that could be found online.

- 1.9 A total of eight workshops were planned between 1 October 2021 to 30 June 2023, however, following the continuation of COVID-19 lockdown restrictions, these were on hold until October 2022. From 1 October 2022 to 28 February 2023 three workshops were held, that supported 17 businesses. Two further workshops were planned in late March that forecasted to support 12 businesses. Similar to the original SABRE Programme, the workshops combined classroom learning with practical exercises and a tour of Bristol Robotics Laboratory (BRL) located at UWE's Frenchay Campus.

Technical Development Projects (TDPs)

- 1.10 The SABRE Programme Delivery Team applied learning from SABRE 1 and prioritised beneficiaries with high growth potential that were more likely to launch products, create jobs and contribute match funding. This, in turn, delivered the most outputs and economic value.

TDPs were refined during SABRE 2, to include mini TDPs (12 hours business assists) and five day TDPs (over a 12 week period). These different levels of TDPs were introduced to manage beneficiary expectation and to ensure the match funding target could be reached. This challenge is noted in paragraph 4.25.

- 1.11 At the start of the SABRE 2 Summative Assessment, 23 TDPs were live or had been completed and an on-line business survey was forwarded to these businesses. Following the completion of the business surveys, two additional mini TDPs (12 hour) and two five-day TDPs commenced, totalling 27 TDPs. The 23 TDPs that were included as part of the Summative Assessment (and on-line surveys were sent to) are listed in Table 1.1 (ext). The four additional businesses are shown in *italics*.

Table 1.1 (ext): Technical Development Projects (TDPs) Completed or Ongoing

| Type | Business | Location | Status | Start Date | End Date |
|-------------------|--|-------------|-----------|------------|------------|
| Mini TDP (12 hrs) | | | | | |
| | Beki Wills | Bristol | Completed | 26/07/2022 | 06/08/2022 |
| | Daniel Hayman Design | Bristol | Completed | 08/09/2021 | 01/11/2021 |
| | Emm Technology | Bristol | Ongoing | 08/03/2023 | Ongoing |
| | Imagine Now | Bristol | Completed | 02/12/2022 | 28/03/2023 |
| | Neuroloom | South Glos | Completed | 03/12/2021 | 16/03/2022 |
| | Revolv | Bristol | Ongoing | 08/03/2023 | Ongoing |
| | Soothe | B&NES | Completed | 21/12/2022 | 22/03/2023 |
| TDP (five days) | | | | | |
| | Absolute Robotics | South Glos | Completed | 23/03/2022 | 27/12/2022 |
| | Adjacency Group | B&NES | Ongoing | 24/02/2023 | Ongoing |
| | aniBotics | Bristol | Completed | 03/12/2021 | 05/08/2022 |
| | Automated Architecture | Bristol | Completed | 30/04/2021 | 26/11/2021 |
| | Batteryminers | South Glos | Completed | 29/06/2022 | 01/04/2023 |
| | DiGiPulse | South Glos | Ongoing | 10/06/2022 | Ongoing |
| | Do Ho | Bristol | Ongoing | 16/11/2022 | Ongoing |
| | Earswitch | South Glos | Completed | 20/10/2022 | 18/05/2022 |
| | GroundWaves | Bristol | Ongoing | 14/12/2021 | Ongoing |
| | Indus Four EBT | South Glos | Ongoing | 03/02/2022 | Ongoing |
| | Lava Wash | South Glos | Completed | 03/12/2021 | 04/08/2022 |
| | Lisa Cole | Bristol | Completed | 01/06/2021 | 07/09/2022 |
| | Mass Spec Analytical | South Glos | Completed | 15/12/2021 | 01/02/2022 |
| | Milbotix | South Glos | Completed | 25/07/2022 | 17/10/2022 |
| | Overnight Insights Group | Bristol | Ongoing | 25/10/2022 | Ongoing |
| | Service Robotics | South Glos | Completed | 16/09/2022 | 01/04/2023 |
| | SPC Group | N. Somerset | Ongoing | 12/09/2022 | Ongoing |
| | The Real Wrap Co | Bristol | Completed | 20/02/2020 | 31/12/2021 |
| | Trigonom | Bristol | Completed | 15/10/2022 | 07/10/2022 |
| | YEET Aerospace | South Glos | Ongoing | 17/03/2023 | Ongoing |

Programme Evaluation

- 1.12 Paula Rogers Consulting was commissioned to undertake an independent evaluation in accordance with the ERDF Summative Assessment Guidance for the extension of the SABRE Programme.
- 1.13 No update
- 1.14 A documentation and data review was undertaken to provide an understanding of SABRE 2's:
- Aims and objectives
 - Delivery management, activities and delivery structure
 - Impact in terms of forecast and achieved spend and outputs

Face to face 'Teams' meetings were conducted with the SABRE Project Team and E-surveys, similar to those developed for the SABRE 1 Summative Assessment, were disseminated in February 2023, via email, to the introductory workshop beneficiaries (17) and mini TDP/TDP beneficiaries (23) that were supported up to that time. Following completion of the surveys, an economic impact assessment was undertaken. Overall, 20 completed surveys were received, representing 50 percent of the beneficiaries. Following completion of the surveys, an economic impact assessment was undertaken.

Introduction Summary

Following successful completion of the original SABRE Programme in September 2021 the Programme was extended to 30 June 2022. Paula Rogers Consulting was commissioned in December 2022 to undertake a Summative Assessment of this extension period.

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2. RELEVANCE AND CONSISTENCY

Overview - No update

Context

2.1 – 2.6 – No update

Market Failure Rationale

2.7 – 2.8 - No update

- 2.9 The market failures remained relevant during the delivery of SABRE 2, i.e., fragmentation, lack of specialist facilities and a need for skills support. The industry led 'Made Smarter Review'¹, reinforced the need to continue the SABRE Programme, supporting the SABRE Programme's approach to addressing challenges facing manufacturing and digital technologies, particularly with regard to robotics/automation. The Review considered the additional benefits that can arise from increased adoption of digital technologies, recognising that they have "the promise of [raising] UK productivity and international competitiveness, creating higher-paid, higher-skilled jobs, addressing regional economic disparities [and, among other benefits] improving the resource efficiency of the UK's industrial base, making it more resilient to global resource supply disruptions and reducing its environmental impact."

Programme Development and Design

2.10 No update

- 2.11 As described in 1.8 and 1.10, workshop delivery and TDPs were refined in SABRE 2, to manage business expectations and to de-risk the Programme. A workbook was developed for the workshops and TDPs were split into mini TDPs (12 hours) and full TDPs (five days to 12 weeks).

Objectives, outcomes and impacts of the programme

2.12 No update

2.13 The additional SABRE 2 outputs are as follows:

| | |
|---|----|
| • C1 Enterprises receiving support | 55 |
| • C4 Enterprises receiving non-financial support | 55 |
| • C5 New enterprises supported | 10 |
| • C8 New jobs created across the assisted enterprises | 8 |
| • C26 Enterprises cooperating with research institutions | 11 |
| • C28 Enterprises supported to introduce new to the market products | 3 |
| • C29 Enterprises supported to introduce new to the firm products | 5 |

2.14 The intended outcomes and impacts remain the same, these being:

Intended outcomes:

- Increase the innovative capacity of participant SMEs

¹ [Made Smarter Review 2017](#)

- Build the robustness of the regional innovation system in the West of England (especially between research institutions and the private sector)
- Increase the 'knowledge capital' of individual entrepreneurs embedded in the region with respect to robotic technologies

Intended Impacts:

- Increase the importance of R&D within business models of participant firms
- Increase jobs, productivity and turnover associated with robotic technology within the portfolio of participant SMEs
- Improve the innovative capacity of participant firms
- Increase the skills and awareness of robotic applications (and how to implement them) amongst staff in participant SMEs
- Extend and deepen networks of people who are interested in robotic technology

Reflections on Programme Design

2.15 The Programme Team reflected positively on how the workshop was implemented in SABRE 2, providing a 'workbook' that enabled beneficiaries to learn at their own pace and capabilities. This was seen as a great improvement to SABRE 1's workshop format as it allowed beneficiaries to work independently. The involvement of the Project Officer and the MOD Graduates at the workshops also enabled more hands-on support for beneficiaries.

2.16 Following SABRE 1, the Programme continued to attract businesses that had not accessed similar support before. Eight out of nine workshop survey respondents indicated that they had not previously attended any other technical workshops and eight out of the eleven TDP businesses indicated that they had not previously participated in support of a similar nature. Of those who had experienced similar support, the feedback on SABRE 2 was very positive:

'Informative, great show of facilities and knowledge of staff'

'The staff are very proactive and informative'

2.17 No update

2.18 The responses from the SABRE 2 workshop survey mirrored the SABRE 1 responses for participating in the Programme. All workshop survey respondents recognised the need to gain an introduction into robotics and automation, with the second most cited response being to develop new skills and build a relationship with BRL (six out of nine respondents).

The most common reason for TDP respondents to participate in the support was to develop a physical prototype (six out of 11 respondents, 54.6 percent) whilst five out of 11 respondents (45.5 percent) all cited:

- Research/explore potential options for the use of robotics and/or automation in my business
- Gain support with the adoption and/or implementation of robotics or automation technologies

- Increase my confidence in operating robotics or automation technologies
- Develop new skills
- Gain support to launch a new product, service or process

The responses demonstrate continued demand for the specialist support that SABRE provided. The Programme has enabled different types and sizes of businesses to gain a good understanding of robotics and automation and how it can drive productivity through a more efficient workflow. The demand for this specialist support, from within the Programme area, has outweighed the resources available. Enquiries from other areas across the UK have also been received. The Programme is scalable and there is potential for it to be expanded if future resources allow.

Survey responses and its continued demand confirm the rationale and objectives of the Programme.

- 2.19 Consultation with the SABRE Team, identified some limitations of the workshops, these included: only being able to work with individuals, rather than a team of people from a business and, the lack of time and resources available to provide more workshop topics. Similar to SABRE 1, members of the Team felt that the availability of financial assistance towards robotic/automation equipment would have encouraged more businesses to invest and progress to the TDP stage.
- 2.20 The Programme Delivery Team felt that they had now exhausted the content of the introductory robotic workshop and also the pool of businesses that were likely to attend, in the catchment area. Businesses are now asking for workshops that focus on specific capabilities and the ability to support a number of staff within a business, rather than on an individual basis.

Relevance and Consistency Summary

Following SABRE 1, the Programme continued to attract businesses that had not accessed similar support before. The demand for robotic/automation specialist support from within the Programme area has outweighed the resources available. The Programme Delivery Team also received enquiries from other areas across the UK.

The Team reflected positively on how the Programme had refined the workshop delivery and TDPs to manage business expectations and to de-risk the Programme. A workbook was developed for the workshops and TDPs were split into mini TDPs (12 hours) and full TDPs (five days to 12 weeks). The Team identified some limitations of the support available, including only being able to work with individuals, rather than a team of people from a business and, the lack of time and resources available to provide more workshop topics. Similar to SABRE 1, members of the Team felt that the availability of financial assistance towards robotic/automation equipment would have encouraged more businesses to invest and progress to the TDP stage.

3. PROGRESS

Overview – No update

Programme Expenditure

- 3.1 Tables 3.1i (ext) and 3.1ii (ext) provide an analysis of SABRE 1 and 2 spend targets including actual performance by 31 December 2022 and forecasted performance to 30 June 2023.

The overall spend target for SABRE 1 and SABRE 2 is £1,820,295, comprising £910,135 ERDF (50 percent) £672,933 public match (37 percent) and £237,227 private match (13 percent). Up to 31 December 2022 Programme expenditure totalled £1,583,150.86. By 30 June 2023, the forecasted total Programme expenditure is £1,794,727.16, accounting for 98.6 percent of the overall contracted spend.

At the time of writing the Final Summative Assessment (March 2023) the Programme had met its private match funding target (£237,227) and is in a comfortable position to allocate within budget and contract by 30 June 2023.

Table 3.1i (ext): SABRE - Actual Performance 31 December 2022

| | Contracted Spend by 31 Dec 2022 | Actual Performance 31 Dec 2022 | Variance 31 Dec 2022 | Percentage Variance |
|-------------------|---------------------------------|--------------------------------|----------------------|---------------------|
| Total Expenditure | £1,636,058.94 | £1,583,150.86 | £52,908.08 | 96.77% |

Table 3.1ii (ext): SABRE - Forecasted Performance 30 June 2023

| | Contracted Spend by 30 June 2023 | Forecasted Performance 30 June 2023 | Variance 30 June 2023 | Percentage Variance |
|-------------------|----------------------------------|-------------------------------------|-----------------------|---------------------|
| Total Expenditure | £1,820,295.00 | £1,794,727.16 | £25,567.84 | 98.6% |

- 3.2 Similar to SABRE 1, SABRE 2 actual spend has closely aligned to contracted spend. By December 2022, the overall Programme achieved 96.77 percent of its contracted spend up to that time.
- 3.3 SABRE 1 allocated all of its spend by 30 September 2021. By 30 June 2023, the overall Programme is forecasted to spend 98.6 percent of its contracted budget.
- 3.4 Table 3.1iii (ext) provides an analysis of the Programme performance achieved by 30 September 2021 (SABRE 1), 28 February 2023 and forecasted to 30 June 2023. The overall target comprises the original SABRE 1 outputs and the SABRE 2 extension outputs. Percentage of targets actually achieved by 28 February 2023 and forecasted to be achieved by 30 June 2023, applies the overall target figures.

Table 3.1iii (ext): SABRE Programme deliverables (actual and forecasted)

| Output Ref | Original Target | Actual | Extension Target | Overall Target | Actual to 28 Feb 2023 | | Forecast to 30 June 2023 | |
|------------|-----------------------|--------|-----------------------|----------------|-----------------------|-------------|--------------------------|-------------|
| | No. s to 30 Sept 2021 | | No. s to 30 June 2023 | | No. | % of Target | No. | % of Target |
| C1 | 72 | 68 | 55 | 127 | 108 | 85% | 127 | 100% |
| C4 | 72 | 68 | 55 | 127 | 108 | 85% | 127 | 100% |
| C5 | 17 | 16 | 10 | 27 | 23 | 85% | 27 | 100% |
| C8 | 7 | 7 | 8 | 15 | 7 | 47% | 10 | 67% |
| C26 | 17 | 17 | 11 | 28 | 33 | 118% | 35 | 125% |
| C28 | 5 | 1 | 3 | 8 | 8 | 100% | 8 | 100% |
| C29 | 8 | 5 | 5 | 13 | 17 | 131% | 20 | 154% |

Output Reference

| |
|---|
| C1 - Number of enterprises receiving support |
| C4 – Number of enterprises receiving non-financial support |
| C5 - Number of new enterprises supported |
| C8 - Employment increase in supported enterprises |
| C26 - Number of enterprises cooperating with research entities |
| C28 - Number of enterprises supported to introduce new to the market products |
| C29 - Number of enterprises supported to introduce new to the firm products |

- 3.5 The COVID-19 pandemic and its continued disruption impacted on the delivery of the Programme from October 2021 until October 2022. During this time workshops were unable to take place at the RIF and access to the laboratory (for staff and businesses) was restricted. Eight workshops were planned, however only three workshops were able to take place between October 2022 and February 2023. A further two are planned for late March 2023. Similar to SABRE 1, to make up the numbers, capacity on workshops was increased. The restricted use of the laboratory for TDPs did change the nature of what could be offered, however some Team members felt that delivery during this time was more manageable and alternative communication, through videos and Teams meetings, worked quite well. From October 2022, restrictions were lifted, and delivery inhouse returned.
- 3.6 Despite the disruptions, the SABRE programme has performed well against its output targets, with all outputs (apart from C8 employment increase) forecasted to deliver or exceed the 30 June 2023 target. COVID-19 had (and continues to have) an impact on businesses with many unable to invest time and resources in their business and to employ new staff. Despite this, the Programme is forecasting to achieve 67 percent of its target for creating new jobs (C8) by 30 June 2023. In addition, the programme is anticipating creating a further three jobs by 31 December 2023. Unfortunately, the three further jobs cannot be included as they fall outside of the ERDF reporting period.

This is a significant achievement of the Programme.

Beneficiary Profile

- 3.7 Similar to SABRE 1, during SABRE 2, the most common workshop respondents were from professional, scientific and technical (56 percent for workshops and 46 percent for TDPs) followed by arts, entertainment and recreation (33 percent for workshops and 36 percent for TDPs) as shown in Figures 3.2 (ext) and 3.3 (ext) below.

Figure 3.2 (ext): Sectors of SABRE 2 Introductory workshop beneficiaries

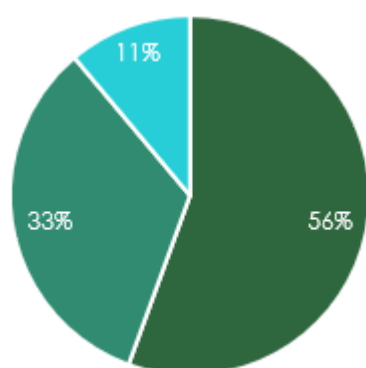
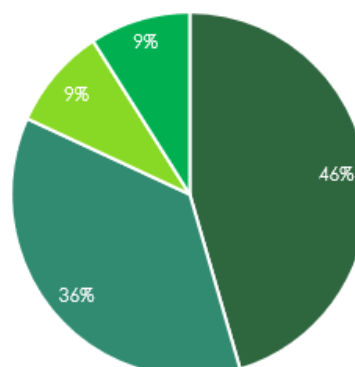


Figure 3.3 (ext): Sectors of SABRE 2 TDP beneficiaries



■ Professional, scientific and technical
 ■ Arts, entertainment and recreation
 ■ Other (creative tech)
 ■ Manufacturing
 ■ Education

- 3.8 Reflecting the concentration of the business base and the location of the businesses, two thirds of respondents from both the workshops and TDPs were based in Bristol, as shown in Figures 3.4 (ext) and 3.5 (ext) below.

Figure 3.4 (ext): Location of SABRE 2 Introductory workshop

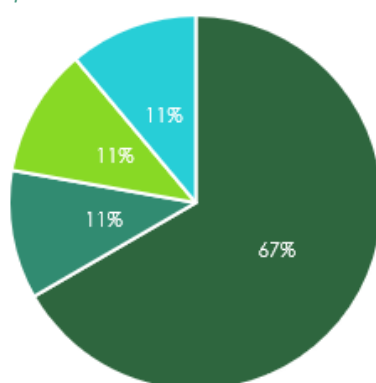
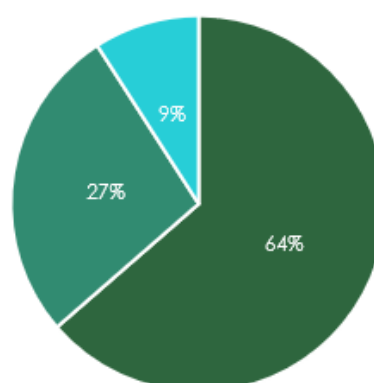


Figure 3.5 (ext): Location of SABRE 2 TDP beneficiaries



■ Bristol ■ North Somerset ■ South Gloucestershire ■ Bath and North East Somerset

The overall spend target for SABRE 1 and SABRE 2 is £1,820,295, comprising £910,135 ERDF (50 percent) £672,933 public match (37 percent) and £237,227 private match (13 percent). Up to 31 December 2022 Programme expenditure totalled £1,583,150.86. By 30 June 2023, the forecasted total Programme expenditure is £1,794,727.16, accounting for 98.6 percent of the overall contracted spend. At the time of writing the Final Summative Assessment (March 2023) the Programme had met its private match funding target.

The COVID-19 pandemic and its continued disruption impacted on the delivery of the Programme from October 2021 until October 2022. During this time workshops were unable to take place at the RIF and access to the laboratory (for staff and businesses) was restricted. Despite the disruptions, SABRE 2 has performed well against its output targets, with all outputs (apart from C8 employment increase) forecasted to deliver or exceed the 30 June 2023 target. COVID-19 had (and continues to have) an impact on businesses with many unable to invest time and resources in their business and to employ new staff. Despite this, the Programme is forecasting to achieve 67 percent of its target for creating new jobs (C8).

4. DELIVERY AND MANAGEMENT

Overview – No update

Governance, management and communication

4.1 The Strategic Board has remained in place during the delivery of SABRE 2, with the Programme reporting updates on outputs and spend every six months. Its purpose and responsibilities are unclear, with one Team member saying that it contributed no strategic support or direction. Another Team member was unsure of its relevance, questioning whether it had been instrumental in the delivery of the Programme. Overall, it is evident that a Strategic Board, in future, will need to review its structure and membership and have a defined role.

4.2 All internal consultees commended the management of SABRE 2, recognising the experience and abilities of all of the staff that have provided a good combination of skills. SABRE 2 also benefitted from having access to MOD Graduates, that were able to provide additional hands-on support to beneficiaries. It was apparent, during the interviews, that the staff worked very well together, providing support to one another when it was needed.

‘We have an excellent Project Manager who will always go the extra mile’

‘Our Senior Engineering Manager is a very talented individual, who can switch between helping SMEs with robotics, mechatronics, CAD, 3D printing and electronics with ease’

‘It is an amazing Team’

4.3 The SABRE Team continued to be located within the RIF during the delivery of SABRE 2, enabling plenty of opportunity to interact. Following an internal decision within the University, the Finance Officer was centrally located for the duration of SABRE 2. It was felt by some staff that the original approach was more helpful as it enabled verbal communication throughout the day and a less disjointed approach.

4.4 Following COVID-19, staff worked one day a week from home. New ways of communicating with one another were seen as working well for all Team members. Formal face to face meetings took place every two weeks and informal discussions were emailed to all staff members, to ensure everyone was kept up to date.

External communications

4.5 The Project Officer played an important marketing role during SABRE 2, maintaining a network of contacts who provided good referrals. Pervasive Media Studio (a creative technologies collaboration between Watershed, University of Bristol and UWE Bristol) was identified as an example of a network that actively referred businesses. In addition, word of mouth was extremely effective. The Programme did not struggle to attract businesses and was careful to manage expectation, as resources available dictated the number of businesses that could be supported. One Team member did comment that the website and social media could have provided a better platform for raising awareness of the Programme’s achievements.

4.6 During SABRE 2 the Programme has collaborated with the South West Creative Technologies Network, Food WorksSW and Future Space Bristol (incubator unit at UWE Bristol). SABRE 2 continues to work closely with the National Composites Centre (NCC) providing an important referral route for businesses into SABRE and creating opportunities for future joint working.

- 4.7 No update
- 4.8 Interaction with The West of England Growth Hub and The West of England Combined Authority (WECA) continued to be poor throughout SABRE 2 delivery. Although the Programme has engaged with WECA, through its partnership with NCC, it has not engaged directly with either organisation. It was confusing as to whose role this should be within the University, with one member of the Team suggesting that it should be centrally led and another recognising that the Team should take some responsibility for not building a relationship. It is disappointing that better connections between the Growth Hub and the SABRE Programme have not been made, as it is likely that awareness raising, business education opportunities and potential sources of match funding for businesses have been missed.
- 4.9 It is apparent that the monitoring and reporting difficulties experienced during SABRE 1 was overcome during SABRE 2, with no problems being reported.
- 4.10 The administration of SABRE 2 continued to be time consuming, with one Team member recognising that, in an ideal world, it would have worked more efficiently with more administration support. However, another Team member felt that the Programme was scalable and could perform with as large or as small as the resources allowed. Despite this, it was recognised by all Team members that good programme management was critical to SABRE's success.

Marketing and recruiting beneficiaries

- 4.11 No update
- 4.12 During SABRE 2, another marketing agency was commissioned, overcoming the problems that were experienced in SABRE 1. The new agency will be producing engagement case studies through the final two quarters of the Programme's activities.
- 4.13 The business survey identified more variety as to how beneficiaries were made aware of SABRE 2, compared to SABRE 1. This reflected the networking and partnering opportunities the Project Officer exploited. During SABRE 2, respondents identified newsletters and referrals from partnering organisations, social media, UWE, as well as word of mouth. 'Other' responses included 'Future Space', 'Bristol Bath Science Park' and 'The Studio Newsletter (Bath Spa University)'. These are illustrated in Figures 4.1 (ext) and 4.2 (ext) below.

Figure 4.1 (ext): How beneficiaries were made aware of the SABRE 2 introductory workshops

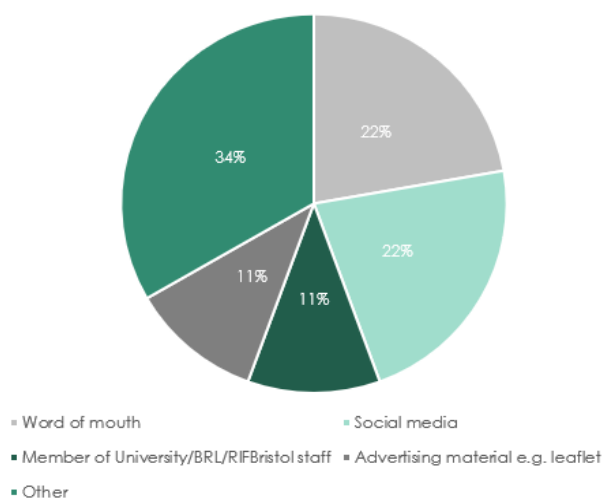
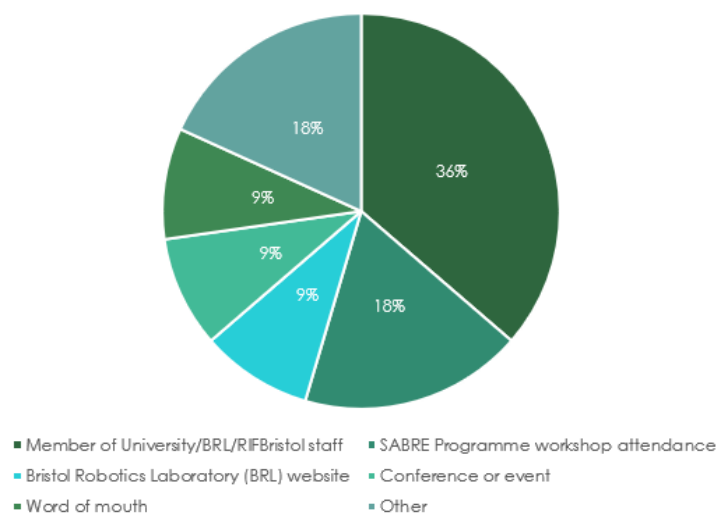
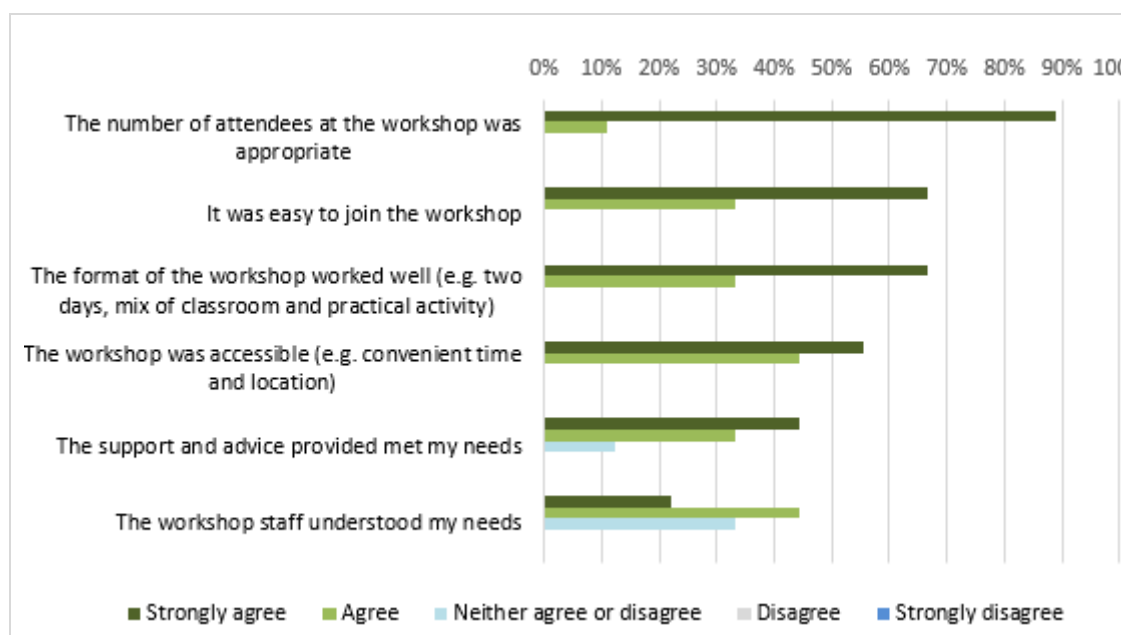


Figure 4.2 (ext): How beneficiaries were made aware of the SABRE 2 TDPs



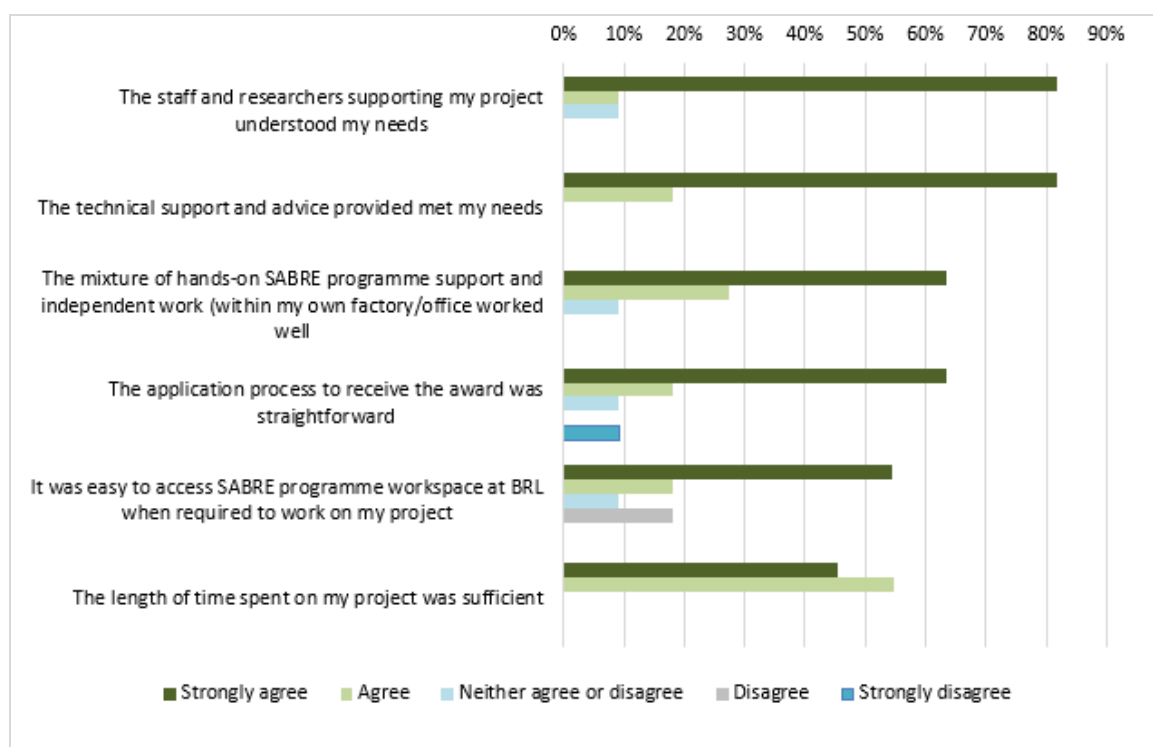
- 4.14 The application process was further refined during SABRE 2 to ensure that private match funding could be secured and resources were used effectively. TDPs were split into mini TDPs (12 hours) and full TDPs (five days up to 12 weeks). Beneficiaries, undertaking the business assists, that were able to commit investment in robotic/automation equipment were invited, onto the extended five day to 12 week TDP.
- 4.15 SABRE 2 workshop respondents generally agreed, very positively, with the various statements as to how the workshops were delivered, as illustrated in Figure 4.3 (ext). 100 percent of respondents strongly agreed or agreed that the number of attendees at the workshop was appropriate, it was easy to join the workshop, the workshop was accessible and that the format of the workshop worked well. 66.6 percent agreed or strongly agreed the workshop staff understood their needs and 77.7 percent agreed or strongly agreed the support and advice provided met the respondent's needs.

Figure 4.3 (ext): Survey responses from businesses about SABRE 2 introductory workshops



4.16 SABRE 2 TDP respondents also provided positive responses as to how the TDPs were delivered, as illustrated in Figure 4.4 (ext).

Figure 4.4 (ext): Survey responses from businesses about SABRE 2 TDPs



- 4.17 100 percent of TDP respondents strongly agreed or agreed that the technical support and advice provided met their needs and the length of time spent on the project was sufficient. 90.9 percent strongly agreed or agreed that the mixture of hands-on SABRE programme support and independent work worked well and that staff and researchers supporting the project understood their needs. 81.8 percent strongly agreed or agreed that the application process to receive the award was straightforward and 72.7 strongly agreed or agreed that it was easy to access SABRE programme workspace at BRL when they were required to work on their project. This lower percentage for both SABRE 1 and SABRE 2 reflects the Government and UWE restrictions that were in place during COVID and following the lockdown periods.
- 4.18 During SABRE 2 three of the nine workshop respondents indicated that they had received further informal support from the SABRE Team, all of whom said it was very effective. The type of support the respondents identified were: receiving useful documentation; articles or event information (three no.); providing additional technical advice (two no.); linking to useful contacts (one no.) and hosting or attending business, strategy or investment meetings (one no.).
- 4.19 Two of the nine workshop respondents and three of the 11 TDP respondents were referred to other business support provision, these included Department of International Trade, Local Growth Hub, Innovate UK and other funding programmes. The low numbers of 'yes' responses indicates this was a missed opportunity, not only for identifying funding resources to make investment more achievable but also identifying other organisations, where additional support could have been explored.

Introductory workshops

- 4.20 The successes and challenges of the Introductory Workshops were identified by the Programme Delivery Team as follows:

Best practice

- 4.21
- Involving MOD graduates in workshop delivery enabled more hands-on support
 - The introduction of a workbook allowed all delegates to progress at their own speed, providing more detail for those with a prior knowledge and basic guidance for those new to the concept of robotics/automation in the workplace

Challenges

- 4.22
- The resources available limited the potential scope of the workshops and it was felt that, by the completion of SABRE 2, 'Introduction to Robotics' had been exhausted. Further workshops, such as 'Introduction to Mechatronics' or 'Introduction to Control Systems' could have offered more variety and a more targeted level of support, attracting businesses with a particular interest in robotics/automation
 - Businesses were keen to participate, and there were waiting lists at times. The Team recognised it was sometimes challenging to balance expectations and capabilities of beneficiaries.

TDPs

- 4.23 The successes and challenges of the TDPs were identified by the Programme Delivery Team as follows:

Best Practice

- 4.24 The additional success factors and best practice of SABRE 2's TDPs include:

- Prior to SABRE 2 the Project Officer focused on the administration of the Programme, rather than its delivery. During SABRE 2 the Project Officer was involved in meetings with businesses, typically providing minutes of meetings and regular updates that recorded progress of projects, both for the Team and for the business. The input from the Project Officer was an important resource that helped to move projects forward and best practice that the Team is keen to continue in future
- The Team worked really well together, all contributing their own roles and specialisms, for example there was expertise in robotics, electronics and mechanics, industry-based experience and project management
- The support on offer is scalable and, with sufficient resources, it is capable of working across a much larger geography
- By splitting the TDPs into two packages of support (i.e., the first being 12 hours, with the potential to increase to five days support and beyond) has helped to de-risk the Programme and enabled engineers to commit more time to those projects that can provide capital match funding
- COVID-19 changed the nature of the support and how it could be offered to businesses. Although this was challenging, it did enable engineers to focus more on prototyping than heavy robotics and opened up the scope of support available.

- 4.25 The additional challenges of the programme's TDPs included:

Challenges

- Since COVID-19 businesses have been more hesitant to spend and this has been evident in SABRE 2. Following participation on workshops and mini TDPs (12 hour business assists) some businesses were unable to progress onto a full TDP as they were unable to commit any capital investment in robotics/automation. This hindered innovation amongst businesses that were keen to develop their projects further.
- Ringfencing engineer's time to match funding made the Programme difficult to manage. It was felt, by some Team members, a capital grant could have encouraged more businesses to invest and match funding requirements would have been easier to achieve.

Contribution to the ERDF horizontal principles

- 4.26 The horizontal themes were revisited as part of the SABRE 2 Summative Assessment

Equality and diversity

- 4.27 Similar to SABRE 1, SABRE 2 has reached out to women in business networks. A greater focus has also been on the creative sector, where the Programme found there was a more diverse representation. The Programme recorded 23 percent of beneficiaries were female and 77 percent male. As a comparison, in 2021 Engineering UK reported that the percentage of

women working in engineering roles had increased from 12 percent in 2017/18 to 16.5% by 2021.² This is a significant achievement of the Programme.

4.28 Although the Programme did reach out to ethnic minority business networks and recognised a greater diversity post lockdown, the Programme did not monitor the ethnicity of participating beneficiaries. Similar to the recommendation in SABRE 1, it would be helpful in future to capture this information, as well as beneficiaries with a disability, to ensure inclusivity and accessibility.

4.29 No update

Environmental sustainability

4.30 Following COVID-19 the Team work one day a week from home. As reported by ONS in September 2021³, with more people working from home it will significantly drive household greenhouse gas emissions down. In 2020 the drop in CO₂e was equivalent to approximately three percent of total emissions in 2019. According to the National Travel Survey, the average daily round car commute is 20.9 miles and the average vehicle emits approximately 349 grams of CO₂e per mile. Reduced commuting by the Team will therefore contribute to the decrease in greenhouse gas emissions.

4.31 No update

4.32 Although the Engineering and Physical Sciences Research Council (EPSRC) bid was unsuccessful, it received positive feedback and created an opportunity for The Team to explore new areas of how support to businesses could be developed in future.

Delivery and Management Summary

All internal consultees commended the management of SABRE 2, recognising the experience and abilities of all of the staff, with an excellent combination of skills. SABRE 2 also benefitted from having access to MOD Graduates, that were able to provide additional hands-on support to beneficiaries.

The Strategic Board's purpose, responsibilities and relevance was unclear with a lack of strategic support or direction. Interaction with The West of England Growth Hub and The West of England Combined Authority (WECA) continued to be poor throughout SABRE 2 delivery. Although the Programme has engaged with WECA, through its partnership with NCC, it did not engage directly with either organisation. As a result, it is likely that awareness raising, business education opportunities and potential sources of match funding for businesses have been missed.

Workshop respondents generally agreed that the workshops were delivered well, the numbers attending were appropriate and the workshops were accessible. The majority of respondents agreed that the workshop staff understood and met their needs. One of the key successes identified by the Team was the introduction of a workbook, allowing delegates to progress at their own speed, providing more detail for those with a prior knowledge and basic guidance for those new to the concept of robotics/automation in the workplace.

² [Gender - EngineeringUK | Inspiring tomorrow's engineers.](#)

³ [COVID-19 restrictions cut household emissions - Office for National Statistics](#)

All TDP respondents agreed that the technical support and advice provided met their needs and the length of time spent on their project was sufficient. The majority of TDP respondents agreed that the format of the TDPs worked well and that researchers and staff met their needs. One of the key successes, identified by the SABRE Team, included splitting the TDPs into two packages of support (i.e., the first being 12 hours, with the second being able to increase support to five days and beyond). This helped to de-risk the Programme and enabled engineers to commit more time to projects that could provide capital match funding.

The resources available limited the potential scope of the workshops. It was considered by some members of the Team that the 'Introduction to Robotics' workshop had been exhausted and that a greater variety of workshops could have provided a more targeted level of support. It was also recognised that since COVID-19 businesses have been more hesitant to spend, with some businesses unable to commit capital investment in robotics/automation and therefore unable to progress onto a full TDP.

The horizontal themes were revisited as part of the SABRE 2 Summative Assessment. The Programme has worked hard to reach out to women and ethnic minority groups through different business networks. The Programme recorded 23 percent of its beneficiaries were females. Although it was recognised that there was greater representation of beneficiaries from ethnic minorities post lockdown, there was no documentary evidence to support this. Similar to the recommendation in SABRE 1, it would be helpful in future to capture this information, as well as beneficiaries with a disability, to ensure inclusivity and accessibility.

5. OUTCOMES AND IMPACTS

Overview – No update

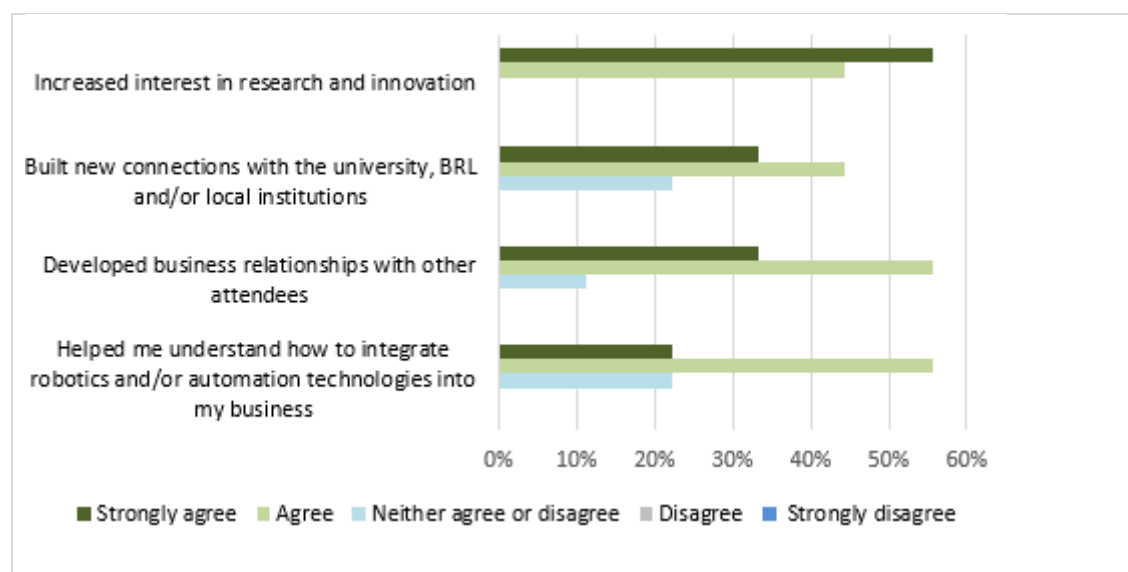
Outcomes and impacts for beneficiaries

Introductory workshops

- 5.1 An online survey was forwarded to workshop attendees in February 2023. At this time three workshops had taken place (27 September 2022, 18 October 2022 and 1 December 2022). Two more workshops were planned for late March 2023. 17 businesses attended the three sessions in total, nine of which completed the survey. This was considered a good response rate (53 percent) and representative of those businesses that had attended workshops to date.

Beneficiaries were asked about the impact that attending the SABRE 2 workshop has had on their business. All respondents strongly agreed, or agreed, that the support had increased their interest in research and innovation. Eight out of nine respondents strongly agreed, or agreed, that the workshops had developed business relationships with other attendees. Responses to the statements are provided in Figure 5.1 (ext).

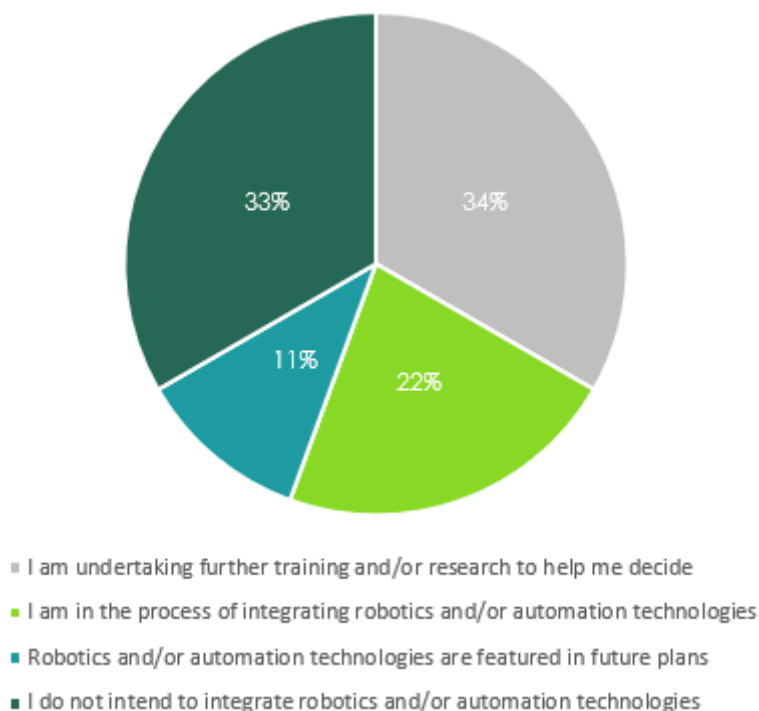
Figure 5.1 (ext): The extent to which beneficiaries surveyed agreed or disagreed with statements about the impact of the SABRE 2 introductory workshops



- 5.2 The survey included a menu of possible impacts the support may have enabled and respondents were asked to tick those that were relevant. Four respondents indicated that they had already adopted new technology, three respondents had safeguarded a job at risk of redundancy and one business had invested in new capital equipment or facilities. The support had led four respondents to introduce new products and/or services into the business and two respondents to introduce new products and/or services into the market place.
- 5.3 Beneficiaries were asked if they had integrated robotics or automation technologies into their business, following the support received in the workshop. Two respondents were in the process of integrating robotics and/or automation technologies and one indicated that it was featured in future plans (see figure 5.2 (ext)). These respondents were asked to identify the percentage

they would attribute to attending the SABRE 2 workshop. The average attribution rate was 62 percent. Out of the remaining beneficiaries, three were undertaking further training/or research to help them decide and three did not intend to integrate robotics and/or automation technologies into their business.

Figure 5.2 (ext): Beneficiary responses to if they have integrated robotics or automation technologies into their businesses since involvement in the SABRE 2 programme workshops



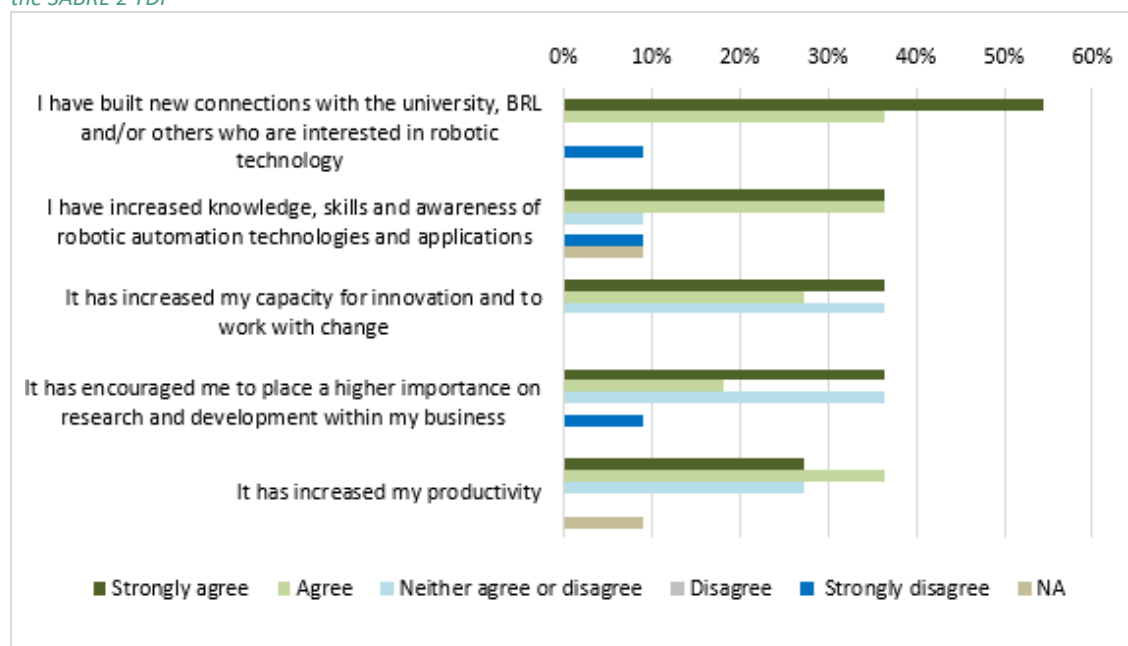
- 5.4 Participants were asked to identify the outcomes of the support received following attendance at the SABRE 2 workshop. The majority of responses (seven) said that it was too early to realise, however one workshop attendee said that the support had led to an increase in business profit and likely to lead to an increase in business turnover and the number of individuals the business employs. One business said that there had been no outcomes as a result of attending the workshop.

TDPs

- 5.5 An online survey was forwarded to 23 business beneficiaries that had taken part in a TDP up to February 2023. Eleven beneficiaries completed the survey (48 percent). This was considered a good response rate and representative of the businesses that have received TDP support.

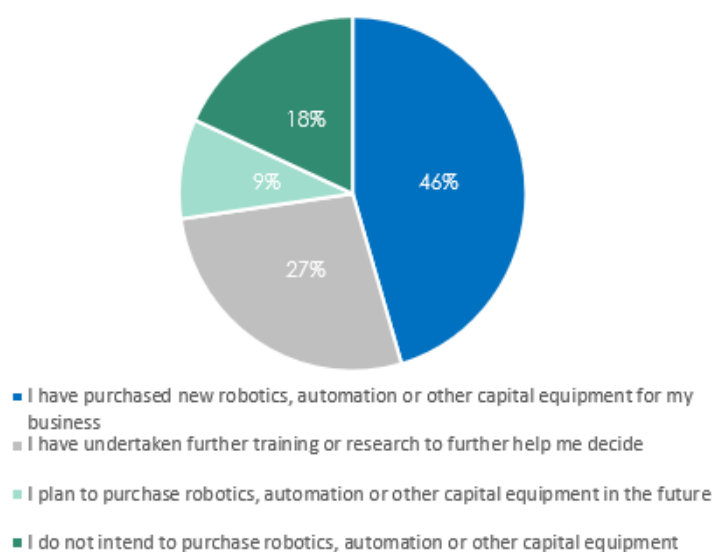
Participants were asked the extent to which they agreed or disagreed with statements about impacts to their business following SABRE 2 support. Results are provided in Figure 5.3 (ext). Ten (91 percent) respondents strongly agreed, or agreed, that they had built new connections with UWE Bristol, BRL and/or others who are interested in robotic technology. Eight (73 percent) strongly agreed, or agreed, they had increased their knowledge, skills and awareness of robotic automation technologies and applications. Seven (64 percent) strongly agreed, or agreed, that their capacity for innovation had increased and a further seven (64 percent) had increased their productivity. Six (55 percent) said that it had encouraged them to place a higher importance on research and development within the businesses.

Figure 5.3 (ext): The extent to which beneficiaries surveyed agreed or disagreed with statements about the impact of the SABRE 2 TDP



5.6 Figure 5.5 (ext) identifies the number of beneficiaries that have purchased any new robotic and/or automation technologies since their involvement in SABRE 2 following TDP support. Five participants (46 percent) have already purchased new robotics, automation or other capital equipment. Three participants (27 percent) have undertaken further training or research to further help them to decide and one participant (9 percent) plans to purchase robotics, automation or other capital equipment in the future. Beneficiaries who have purchased, or are planning to purchase, were asked to identify the percentage they would attribute to the TDP support received. The average attribution rate was 66 percent.

Figure 5.5 (ext): Whether beneficiaries have purchased any new robotics or automation technologies, or other capital equipment for their businesses since their involvement in SABRE 2



5.7 The types of robotic, automation and or other capital equipment that had been purchased included:

'Electronic components'

'Lap top and 3D camera'

'Universal Robots UR10'

'Techman collaborative robots to support our customers'

'Additive manufacturing equipment'

'Two Epson VT6s'

5.8 TDP beneficiaries were asked about FTE employment and turnover and whether their involvement in the TDP had helped the business to grow or sustain:

- Three respondents had increased their workforce (totalling four FTEs). Employment numbers in seven businesses had remained constant and one business had decreased its workforce. Of the three businesses that had increased their workforce, an average of 41% of employee increase was attributed to the support received through SABRE 2 TDP.
- Two respondents had increased their turnover, whilst six had remained constant and three had decreased. Seven respondents said that undertaking a TDP had helped to reduce potential greater losses in turnover.

5.9 Four respondents felt that the skills developed through undertaking the TDP helped to navigate the COVID-19 crisis more effectively, stating that 'it will make us more independent' and that it had provided 'research options'.

Outcomes and impacts for the Programme Delivery Team, BRL and the University

5.10 No update

Economic impact assessment

5.11 This Summative Assessment applies actual FTE employment created during SABRE 1 and SABRE 2 up to 31 December 2022 and forecasted employment to 31 December 2023 (to capture forecasted jobs outside of the 30 June 2023 ERDF reporting period). GVA is applied per employee and calculated using 2020 ONS data⁴ for filled jobs in the Programme area. The GVA average per filled job in the SABRE Programme area is £54,889.

5.12 The Government (through the HM Treasury Green Book) maintains that public sector spending should address market failures and bring about change that would not have happened at all, or would have happened at a slower rate, or lower quality or on a smaller scale than without public intervention. This is referred to as additionality⁵.

Gross employment

5.13 Table 5.1 (ext) applies the gross number of FTE Employment and related gross GVA up 31

⁴<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/labourproductivity/datasets/subregionalproductivitylabourproductivitygvaperhourworkedandgvaperfilledjobindicesbyuknuts2andnuts3subregions>

⁵ The Green Book: Central Government Guidance on Appraisal and Evaluation 2022

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1063330/Green_Book_2022.pdf

December (actual) and 31 December 2023 (forecasted).

Table 5.1i (ext): Gross FTE Employment and Related GVA

| | 31 December 2022 | 31 December 2023 |
|-----------|------------------|------------------|
| Gross FTE | 7 | 13 |
| Gross GVA | £384,223 | £713,557 |

Additionality

5.14 The main factors that affect the additionality (impact indicators) achieved through SABRE 1 and SABRE 2 are deadweight, leakage and displacement. These are analysed below.

5.15 Deadweight represents the outputs and outcomes that would have happened anyway, even without the public investment.

As part of the TDP Business Survey, to understand the impact of deadweight, businesses were asked 'Do you think you would have achieved similar results, in the same time frame, without the support from SABRE?'. Respondents were given a number of options. These are listed in Table 5.1ii (ext) below, alongside the assumption for calculating additionality:

Table 5.1ii (ext): Deadweight Assumptions

| Impact of Deadweight | Business Survey Responses (%) | Additionality Assumption |
|---|-------------------------------|---|
| We definitely would not have achieved the same outcomes | 45.4% | Full additionality has taken place: 100% |
| We would have achieved the same outcomes but not as quickly | 18.2% | The investment has accelerated the delivery of the outcomes and impacts: 100% |
| We probably would not have achieved the same outcomes | 27.3% | Partial additionality has taken place: 50% |
| We would have achieved the same outcomes but not at the same scale | 9.1% | Partial additionality has taken place: 50% |
| We would have achieved the outcomes anyway at the same speed, scale and quality | 0% | No additionality: 0 |

Table 5.2i (ext) converts gross number of jobs created to net number of jobs created, applying the above additionality and deadweight assumptions and Table 5.2ii (ext) summarises displacement and leakage calculations.

Table 5.2i (ext): Deadweight and Additionality Assumptions

| Response | Business Survey Responses (%) | Adjustment | 31 December 2022 FTE = 7 | | 31 December 2023 FTE = 13 | |
|---------------------------|-------------------------------|------------|-----------------------------|--|------------------------------|---|
| | | | Gross FTE | Net FTE | Gross FTE | Net FTE |
| Full Additionality | 45.4% | 100% | 3.2 | 3.2 | 5.9 | 5.9 |
| Accelerated Additionality | 18.2% | 100% | 1.3 | 1.3 | 2.4 | 2.4 |
| Partial Additionality | 36.4% | 50% | 2.5 | 1.3 | 4.7 | 2.4 |
| No additionality | 0% | No Value | 0 | No Value | 0 | No value |
| Deadweight Total | 100% | | 7 | 5.8 (representing 17.7% decrease) | 13 | 10.7 (representing 17.7% decrease) |

Table 5.2i (ext): Displacement and Leakage Assumptions

| Additionality Factor | SABRE 2 Estimate | Narrative |
|----------------------|------------------|--|
| Displacement | 29.3% | Displacement represents the extent to which activities or outcomes generated by SABRE 2 have the effect of reducing activities or outcomes elsewhere within the target area. Displacement is based on a proxy value obtained from HCA/BIS additional guidance which indicates 29.3% mean level of displacement at the regional level for business support projects |
| Leakage (Employment) | 10% | Leakage represents the extent to which any outcomes generated by the programme are lost outside of the target area. Homes and Communities Agency (2014) Additionality Guide ⁶ 'low' leakage ready reckoner of 10% has been applied. |

5.16 Multiplier effects refer to the **positive** economic activity (jobs, expenditure or income) that is associated with additional local income and local supplier purchases. The economic impact is multiplied because of the knock-on effects within the local economy. Homes and

⁶ HCA Additionality Guide, fourth edition, 2014

Communities Agency (HCA) additionality guidance (2014) refers to the use of a low economic multiplier pre-calculated value of 1.3 at the regional level. A 1.3 multiplier effect has therefore been applied.

Net Additional Impacts

- 5.17 Estimates of net economic impacts (jobs created and GVA) up to 31 December 2022 and 31 December 2023 are detailed in Table 5.3i (ext) and 5.3ii (ext) below:

Table 5.3i (ext): Estimates Net Economic Impacts (FTE jobs) to 28 February 2023 and 31 December 2023

| Additionality Factors | Measures Applied | FTE 31 Dec 2022 Adjustment (Actual) | FTE 31 Dec 2023 Adjustment (Forecast) |
|-----------------------|------------------|--|--|
| Gross Calculation | 100% | 7 | 13 |
| Deadweight | 17.7 % | | 2.3 |
| Leakage | 10% | 4 | 1.3 |
| Displacement | 29.3% | | 3.8 |
| Sub-total | | 3 | 5.6 |
| Multiplier Effects | 1.3 | 3.9 | 7.3 |
| Total Net Jobs | | 3.9 | 7.3 |

Table 5.3ii (ext): Estimates Net Economic Impacts (GVA per annum) to 28 February 2023 and 31 December 2023

| | 31 Dec 2022 (Actual) | 31 Dec 2023 (Forecast) |
|---|-------------------------|---------------------------|
| GVA (per annum) estimated from net jobs created (£54,889 per FTE job) | £214,067 | £400,690 |
| GVA over a 3-year return period (£54,889 per FTE job) | £642,201 | £1,202,070 |

- 5.18 The impact assessment indicates that the overall SABRE Programme has created 3.9 net FTEs resulting in £214,067 additional GVA to 31 December 2022. The Programme is forecasted to create 7.3 net FTEs resulting in £400,690 GVA by 31 December 2023.

Counterfactual

- 5.19 Similar to SABRE 1, the SABRE 2 survey asked beneficiaries what would best reflect their position in the absence of SABRE 2. As shown on Figure 5.4 (ext), five respondents (46 percent) thought that they definitely would not have achieved the same outcomes, three respondents (27 percent) thought they probably would not have achieved the same outcomes, two respondents (18 percent) thought they would have achieved the same outcomes, but not as quickly and one respondent (nine percent) thought they would have achieved the same outcomes, but not at the same scale. No respondents thought they would have achieved the outcomes anyway, at the same speed, scales and quality.

Figure 5.4 (ext): Beneficiary responses to what would best reflect their position in the absence of the SABRE TDPs



5.20 No update

Outcomes and Impacts Summary

SABRE 2 workshops and TDPs continued to increase business interest in research and innovation, enabled business relationships with other attendees and built new connections with the university, Bristol Robotics Laboratory (BRL) and/or local institutions. In addition, Technical Development Project (TDP) respondents had increased their knowledge, skills and awareness of robotic automation technologies and applications. Following the support, most of the respondents were in the process of integrating robotics and/or automation or undertaking further research to help them to decide. One workshop beneficiary and five TDP beneficiaries had already invested in new capital equipment within their business.

An economic impact assessment was undertaken for the combined SABRE 1 and SABRE 2 Programme. The impact assessment considered additionality factors and applied a multiplier effect concluding that, up to 31 December 2022, the Programme had created 3.7 FTE net jobs resulting in £214,067 GVA. The SABRE Programme is forecasted to create 7.3 net FTE jobs resulting in £400,690 GVA by 31 December 2023.

Similar to SABRE 1, the SABRE 2 TDP survey asked beneficiaries what would best reflect their position in the absence of SABRE 2. All respondents felt they would not have achieved the same outcomes as quickly or to the same scale and quality without the support.

6. ASSESSING VALUE FOR MONEY

6.1 No update

Economy

6.2 No update

6.3 During SABRE 2 the membership of the panel was expanded to include a broader range of expertise. Three new academics from UWE's Faculty of Environment and Technology were included as potential panel members, who could be called upon when a relevant application was received (a motors expert was included for example, to reflect the fact that the Programme received increasing interest from SMEs developing new motor technologies).

6.4 The measurement of efficiency has been updated since SABRE 1 Summative Assessment, to provide an overall calculation for SABRE 1 and SABRE 2, using Regeneris National Research⁷ (in the absence of no similar programmes that the SABRE programme can be compared to). The unit cost per enterprise supported is provided for actual outputs achieved and Project spend by 31 December 2022 and forecasted to 30 June 2023. Similar to the findings in SABRE 1 Summative Assessment, the unit cost achieved by 104 enterprises receiving support by 31 December 2022, and those forecasted to 30 June 2023 (127), remains more than twice as efficient as the mean performance across other national projects.

Table 6.1 (ext): Unit cost of expenditure of overall Programme against Regeneris national evaluation

| Output | Outputs achieved by 31 Dec 2022 (forecast to 30 June 2023) | Project Spend achieved by 31 Dec 2022 (forecast to 30 June 2023) | Performance (unit cost per client supported) | |
|--|--|--|--|-----------------------------|
| | | | SABRE | Regeneris National Research |
| Number of Enterprises receiving support (C1) | 104 (127) | £1,583,150.86 (£1,794,727.16) | £15,223 (£14,132) | £34,000 |

Effectiveness

6.5 The measurement for value for money has been updated since the first Summative Assessment, to provide an overall calculation for the SABRE Programme (including SABRE 1 and 2). The figures presented are based on actual GVA achieved by 31 December 2022 and forecasted GVA by 31 December 2023 (this includes new jobs that are forecast outside of the ERDF 30 June 2023 reporting period), as detailed in Table 6.2 (ext) below:

Table 6.2 (ext): 'Cost per' Return on Investment Metric

| Timescale | GVA (per annum) estimated from net jobs created | ERDF Investment (50%) | Return on Investment |
|-----------------------------|---|-----------------------|----------------------|
| 31 December 2022 (actual) | £214,067 via jobs filled | £791,576 | £0.27 |
| 31 December 2023 (forecast) | £400,690 GVA via jobs filled | £897,364 | £0.45 |

⁷ [Regeneris Report \(nwueu.ac.uk\)](https://www.nwueu.ac.uk)

- 6.6 The forecasted Return-on-Investment (ROI) figure to June 2023 (£0.45) is considerably higher than ROI figure reported in March 2021 (£0.26). Despite the ongoing disruption of COVID-19, and the period of economic uncertainty that followed, the Programme is continuing to make a positive contribution to economic growth.

6.7

Assessing Value for Money Summary

The measurements for value for money have been updated since the SABRE 1 Summative Assessment, to provide an overall calculation for SABRE 1 and SABRE 2 based on new FTE jobs forecasted to 31 December 2023. In terms of efficiency, the SABRE programme remains more than twice as efficient compared to the mean performance across other national projects.

The forecasted Return-on-Investment (ROI) figure to June 2023 (£0.45) is considerably higher than ROI figure reported in March 2021 (£0.26). Despite the ongoing disruption of COVID-19, and the period of economic uncertainty that followed, the Programme is continuing to make a positive contribution to economic growth.

7. CONCLUSIONS AND LESSONS

- 7.1 The market failures remained relevant during the delivery of SABRE 2 and the responses from the SABRE 2 workshop and TDP surveys demonstrated the continued demand for the specialist support that SABRE provided. Despite the disruptions of COVID-19, and the period of economic uncertainty that followed, the SABRE programme performed well against its output targets, with all outputs forecasted to closely deliver, deliver or exceed the 30 June 2023 target.
- 7.2 The management and delivery of SABRE 2 continued to be effective and successful and was attributable to the excellent combination of skills within the Programme Delivery Team. The Strategic Board, however, lacked direction and strategic support and did not play an important governance role within the administration of the Programme. One of the key successes of SABRE 2 was the introduction of a workbook, as part of the workshop delivery, that allowed delegates to progress at their own speed and understanding. Another key success was splitting the TDPs into two support packages (i.e., the first totalling 12 hours of business support, and the second totalling a minimum of five days). This split in support helped to de-risk the Programme and enabled engineers to commit more time to projects that could proceed to the five days of support and provide capital match funding. The challenges that were experienced by the Programme included not being able to extend the scope and content of the workshops. Also, since COVID-19, it was recognised that businesses were more reluctant to spend, with some businesses not in a position to commit capital investment in robotics/automation. Consequently, these businesses were not able to progress onto a five day TDP. ERDF horizontal themes continued to be integrated into the delivery of the SABRE Programme. The Programme has worked hard to reach out to women and ethnic minority groups through different business networks.
- 7.3 An economic impact assessment was undertaken for the combined SABRE 1 and SABRE 2 Programme. Up to 31 December 2022, the Programme created 3.7 FTE net jobs resulting in £214,067 GVA. The SABRE Programme is forecasted to create 7.3 net FTE jobs resulting in £400,690 GVA by 31 December 2023 (this includes new jobs that are forecast outside of the ERDF 30 June 2023 reporting period).

Similar to SABRE 1, the SABRE 2 TDP survey asked beneficiaries what would best reflect their position in the absence of SABRE 2. All respondents felt they would not have achieved the same outcomes as quickly or to the same scale and quality without the support.

Recommendations

- 7.4 In addition to those identified as part of the SABRE 1 Summative Assessment, the SABRE 2 Summative Assessment identifies a number of considerations for the grant recipient (UWE); those designing and implementing similar schemes and policy makers. These include:

Grant recipient (UWE) - considerations for future iterations

- Build a collaborative relationship with the West of England Combined Authority and its Growth Hub to help raise awareness, understand business education opportunities and coordinate with other business support projects that could provide potential sources of match funding for business investing in robotics/automation

- Review the structure, membership and purpose of the Programme's Strategic Board so that it has a defined and well thought out role, providing overall direction of the Programme and its strategic priorities
- Capture ethnicity and disability data going forward, to ensure inclusivity and accessibility.

Those designing and implementing similar iterations

- Constantly review and refresh the offer to businesses, particularly workshop content, to ensure it remains relevant and sustains business interest
- Allow a flexible delivery approach that can reflect the changing needs of business and the ongoing development of robotic/automation capabilities
- Consider the inclusion of a capital grant scheme that will provide an incentive for businesses to invest and optimise the outcome of the support provided.

Policy Makers

- The SABRE Programme is an excellent example of innovation led growth and there continues to be a high level of demand from businesses within the West of England and across the UK. Investment in this area of work is critical to ensure businesses understand robotic/automation capabilities and how it can drive efficiency and sustainability and transform a workplace
- The support on offer through the SABRE Programme is scalable and, with sufficient resources, it is capable of working across a much larger geography
- Encourage local government authorities to work closely with business support providers within their areas, to offer ongoing support and encourage business referrals between providers.