

## Keeping up with the pace of change in the automotive industry

**'We're trying to turn the tide. We're lobbying government, the automotive industry, and the education sector to invest in addressing the shortage of qualified electric vehicle technicians, and the majority have stepped up to the challenge. But our latest report worryingly reveals that the UK's lack of electric vehicles skills is just the tip of the iceberg.'**

**Steve Nash, CEO, IMI**

### Overview

**Institute of Motor Industry (IMI) is the professional body for the motor industry**

IMI's purpose is to provide, and continuously evolve, the means by which people working in the automotive sector can attain relevant professional competence and appropriate recognition.

It was founded in 1920 when society – as now – was experiencing rapid technology-driven change. The IMI was created to establish new skills and knowledge benchmarks for the emerging automotive industry.

The IMI predicts a 160,000 shortfall of workers in the UK automotive sector by 2031 based on figures from its *Automotive Sector Employment Report*

2021 – 2031 (July 2022) so more needs to be done to attract new people to the industry and upskill/reskill existing workers.

Having people with the right skills depends on having the right training and qualifications in place. There needs to be high quality occupational standards, qualifications, and apprenticeship programmes in the right place at the right time. Making these products relevant, up to date and available quickly is also very important, to ensure young people and others have the skills they need now, and employers have access to a continuous talent pipeline.

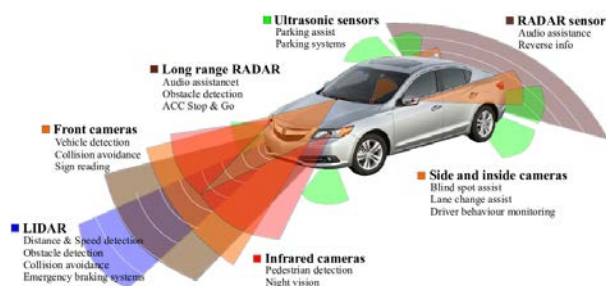
**How has the move to electric vehicles affected the automotive industry and the skills it needs?**



Digitisation, increasing automation, and new business models have revolutionised many industries, and automotive is no exception. These changes have resulted in four technology-driven trends in the automotive sector: diverse mobility, autonomous driving, electrification, and connectivity.

The impact of this is that those who work in the automotive sector or are going to join, will need new, up to date skills to respond to these trends, in particular with electric vehicles and Advanced Driver Assistance Systems (ADAS).

Safety is a priority and accurate recalibration of ADAS after a collision or maintenance work is vital. This is an issue that the insurance industry and the wider automotive sector are facing. As vehicle servicing, maintenance and fitting becomes significantly transitioned from mechanical and engineering expertise to precision electronic device calibration, it inevitably requires new and updated skills.



The vehicle fitting sector is one such area that has had to adapt to these

changes. Employees will need to have the skills and knowledge to understand how ADAS may be affected by the work they carry out on vehicles, for example four-wheel alignment. If left unchecked and un-calibrated, even a small inaccuracy in the position of a sensor can significantly impair the effectiveness of one or more ADAS systems.

**'The move to electrification and the other technologies that are associated with it such as Advanced Driver Assistance Systems and Connectivity, requires the Automotive Sector to first react to the changes and then plan for a more dynamic approach developing the technical skills required to service them. Technology is moving so quickly; some would say more so in the current decade than the last ten previously. We need a very clear, robust and adaptable set of standards that can support the sector as well as attract the next generation of automotive workers.'**

**Andy Turbfield, Head of Quality, Halfords**

**What did IMI need to do to respond quickly to these changes?**

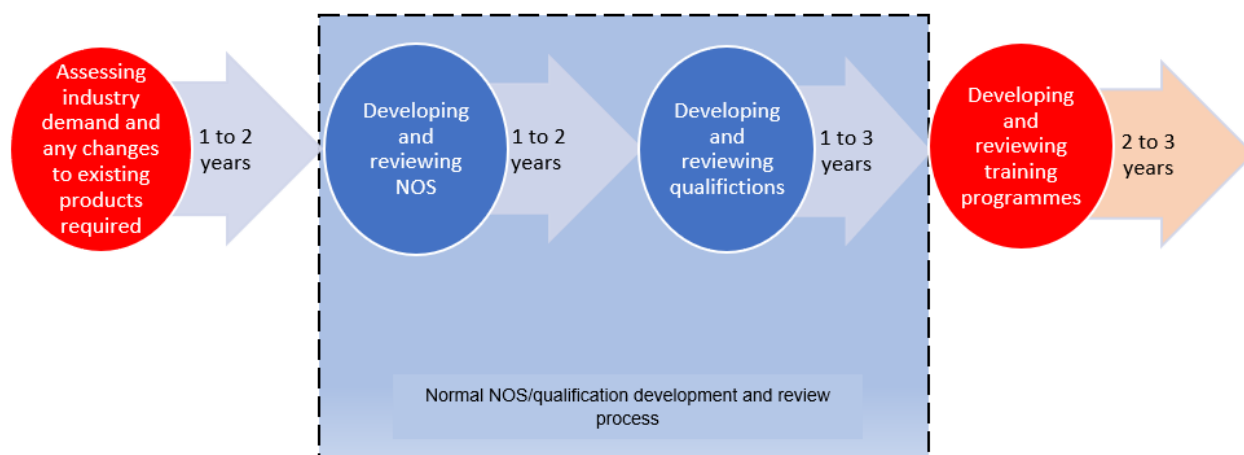
High quality training for vehicle fitting needs to be made available quickly to meet the demand for these new skills.

This means that the National Occupational Standards (NOS) which demonstrate that an individual has reached the required level of competence on completing their training, needs to be available quickly, as do the qualifications based on NOS.

The usual process of NOS and qualification development and review is linear and generally happens in the

order indicated in Diagram 1 below

Diagram 1 – The NOS/Qualification Development and Review



This means the whole process can take many years to complete, a significant issue where skilled and qualified people are in immediate demand.

In 2021, IMI and employers from the sector assessed the need and demand to review the NOS and Scottish Vocational Qualification (SVQ) at SCQF Level 5 for Vehicle Fitting to reflect the changes brought about by vehicle electrification.

Acknowledging that the normal process outlined in Diagram 1 above would take far too long, it was decided to undertake the review of the vehicle fitting NOS at the same time as reviewing the qualification in a concurrent programme of work.

*'This year we are reviewing the Vehicle Fitting NOS which we will combine with the review of the L5 SVQ, to streamline the process and bring the whole 'NOS-to-Qualification' process to life, which some stakeholders currently find time consuming.'*

**Caroline Harris, Project Manager**

There were two key areas which needed particular focus to achieve this quick turnaround, **Stakeholder Engagement and Management** and **Project Planning and Management**. Both these key activities needed to be agile and carried out quickly whilst still ensuring quality, so key tools such as social media and online project management and communication tools were deployed.

## Stakeholder Engagement and Management

'The IMI is continuously working to develop new connections with employers and stakeholders through its Business Development team and other industry related projects, especially Electric Vehicle and ADAS, both of which are likely to feature in all reviews (of NOS and qualifications).'

Caroline Harris, Project Manager

The most important factor in running concurrent programmes of work is to have the right people around the table at the right time. Employers and employer representation from across the UK is critical in ensuring these products truly reflect what happens in the workplace and the skills needed. Many of the stakeholders and employers invested in the review of NOS and qualifications are the same and therefore to reduce time and maximise resources, it makes sense to consult with them at the same time.

In order that the widest range of employers and stakeholders were reached in the shortest space of time, IMI used a wide variety of consultation channels to maximise scale and reach.

Electronic communication in the form of sector-wide emails, a dedicated

webpage to house the project information, online surveys, updates in IMI member newsletters, social media and e-shots were deployed.



Expert Working Groups (EWG) with key employers and stakeholders were created to ensure wider consultations reflected real time views. And the EWG in Scotland were consulted on both the NOS and qualifications at the same time.

The use of technology to undertake consultation with the EWGs was particularly important as the project was undertaken during the COVID pandemic. Whilst face to face meetings proved more productive, meetings were conducted via videoconferencing which also saved travel and time.

IMI also took the opportunity to raise awareness of the project through the networks of all IMI colleagues as they attended industry meetings, conferences, and other external events.

Key to this project was the involvement of an awarding organisation. Awarding organisations are effectively the 'front line' recipients of newly developed and reviewed NOS requiring them

either develop a new qualification or review the content of an existing one to ensure it is up to date. In the case of this project, the awarding organisation was IMI Awards, the only awarding organisation for automotive in Scotland, who were importantly a member of the EWG – see below.

Having the awarding organisation involved in the end-to-end process has 3 key advantages:

- it allows access to further networks of key employers and stakeholders of the awarding organisation therefore maximising reach and scale.
- it allows the awarding organisation better insight into the content and purpose of the NOS by engaging directly with employers and other stakeholders.
- it minimises any misunderstanding on content and operational matters thus ensuring the review of qualification can be carried quickly, efficiently, and effectively bringing the final qualification to market quicker.

**Essentially, the Automotive Sector needs to work together. Entities such as Original Equipment Manufacturers, Aftermarket, Body Repair, Education Providers, awarding bodies and of course the Government, must align to ensure that we are able to attract the skills of tomorrow, today. We require clear and all-encompassing qualifications with well-drawn-out routes to attainment so that both young people, parents and existing Automotive workers feel supported as the**

**sector moves from ICE (internal combustion engine) to electrification, to autonomy and beyond.**

**Andy Turbefeild, Halfords, Head of Quality**

### Project Planning and Management

Good project planning and management is essential to ensure outputs are delivered on time and to quality. Diagram 2 below illustrates the detailed project planning undertaken by IMI.

This was particularly the case for IMI where two products, Vehicle Fitting NOS and SVQ Qualification were being reviewed at the same time.

One of the key initial tasks was to set out the purpose, aim and expected outputs of the project to ensure 'buy' in from key stakeholders and employers. This involved completing documents for Skills Development Scotland (SDS) and for the approval of the designated NOS approval authorities. And to review the qualification, a submission was completed for SQA Accreditation who ensure qualifications meet quality criteria. In both cases IMI could set out in detail the aims and objectives, timelines and critically outline the support of the industry for the concurrent programme of work.

**SQA Accreditation have for a long time felt that there are opportunities to better align NOS and SVQ consultations, reviews and development despite a number of process challenges. Doing the work closer together, makes sense with the same stakeholders**



feeding back on the NOS also doing the same for the SVQ. It's a more efficient and less time-consuming way to operate rather than going back to the same groups the next year with similar consultation.

Andy Crone, Senior Accreditation Manager, SQA

Diagram 2 – IMI Project Planning

| No. of days - PM | No. of days - Developer | No. of Days- Admin | All Scottish qualification reviews (9 qualifications) 2020-21  | Week 1      |     |     |     |     | Week 2       |      |      |      |      |
|------------------|-------------------------|--------------------|--|-------------|-----|-----|-----|-----|--------------|------|------|------|------|
|                  |                         |                    |  | W/C 5th Apr |     |     |     |     | W/C 12th Apr |      |      |      |      |
|                  |                         |                    |  | 5th         | 6th | 7th | 8th | 9th | 12th         | 13th | 14th | 15th | 16th |
|                  |                         |                    | Mini Competition released - 20th April   |             |     |     |     |     |              |      |      |      |      |
|                  |                         |                    | SDS review of Mini Competition - 3rd May onwards   |             |     |     |     |     |              |      |      |      |      |
|                  |                         |                    | Mini Competition awarded - Week beginning 10th May   |             |     |     |     |     |              |      |      |      |      |
| 12.75            | 0                       | 1.75               | Identify stakeholders for involvement in expert working group and wider consultation across all 4 nations, including Marketing meeting |             |     |     |     |     |              |      |      |      |      |
| 4.5              | 0                       | 2.25               | Organise expert working group meetings, plus marketing activities  |             |     |     |     |     |              |      |      |      |      |
| 3                | 15                      | 4.5                | Create 1st Draft of documentation.   |             |     |     |     |     |              |      |      |      |      |
| 1.5              | 0                       | 0                  | Prepare documentation for 1st Expert Working Group meeting   |             |     |     |     |     |              |      |      |      |      |

IMI prepared a detailed project plan and risk log for both review projects which allowed them to manage time and resources effectively and efficiently. In addition, monthly progress reports ensured the projects were monitored and contingency could be employed where necessary.

Finally, planning the timing and membership of the Expert Working Groups (EWG) described in detail below, was important to ensure robust, meaningful NOS and qualification consultation across the four UK nations.



Diagram 3 – Planning of EWG

|  | Week 10     |     |     | Week 11      |      |      | Week 12      |      |      | Week 13      |      |      | Week 14     |      |      | Week 15      |      |      | Week 16      |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |    |
|--|-------------|-----|-----|--------------|------|------|--------------|------|------|--------------|------|------|-------------|------|------|--------------|------|------|--------------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|----|
|  | W/C 7th Jun |     |     | W/C 14th Jun |      |      | W/C 21st Jun |      |      | W/C 28th Jun |      |      | W/C 5th Jul |      |      | W/C 12th Jul |      |      | W/C 19th Jul |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |    |
|  | 7th         | 8th | 9th | 10th         | 11th | 14th | 15th         | 16th | 17th | 18th         | 21st | 22nd | 23rd        | 24th | 25th | 28th         | 29th | 30th | 1st          | 2nd | 5th | 6th | 7th | 8th | 9th | 12th | 13th | 14th | 15th | 16th | 19th | 20th | 21st | 22nd | 23rd |    |
| Expert working group meetings England  |             |     |     |              |      |      |              |      |      |              |      |      | AE          |      |      | HVT          |      |      |              |     |     |     |     |     | LT  |      |      |      |      |      | VF   |      |      |      |      |    |
| Expert working group meetings Scotland |             |     |     | BU           |      |      | HV           | od   | BU   |              |      |      | Pair        | Part | BU   |              |      |      |              |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |    |
| Expert working group meetings NI       |             |     |     |              |      |      |              |      |      |              |      |      |             |      |      | AE           |      |      | HVT          |     |     |     |     |     |     |      |      | LT   |      |      |      |      |      | VF   |      |    |
| Expert working group meetings Wales    |             |     |     |              |      |      |              |      |      |              |      |      |             |      |      | AE           |      |      |              |     |     |     |     |     | HVT |      |      |      |      |      | LT   |      |      |      |      | VF |

## Conclusion and Lessons Learnt

By operating the two projects concurrently, IMI were able to complete the review of both the NOS and the SVQ in a much shorter timescale than is customary.

This meant that the vehicle fitting sector could react quickly to the changes brought about by vehicle electrification and ensure new recruits and existing workforce had up to date skills.

The NOS Governance Group, who are responsible for the NOS programme and commissioned this case study, aim to support those organisations who develop and review NOS to get their products to market quicker to meet the skills demands of their sectors.

The key lessons learnt for the organisations who develop, and review NOS are:

- having clarity from the beginning, in the form of a demand statement, the need for the work to be done including the knock-on impact on other products such as qualifications.
- prioritising involvement and agreement of stakeholders whose products are impacted such as awarding bodies from the start through to completion.

- planning carefully the whole concurrent programme of work to ensure efficient use of time and resources.
- utilising technology to speed up processes and achieve scale and reach when consulting employers and stakeholders.
- consider self-funding development and review of NOS to increase flexibility and expedite the whole process.

However, the NOS Governance Group also recognise that there are systems and processes for which they are responsible, which can limit flexibility and lengthen the time it takes to complete the work. This includes the funding cycle and the time it takes to agree funding and the approval and quality assurance process for NOS. The NOS Governance Group are committed to reviewing these processes to make them as agile and responsive as possible.

It is imperative that the automotive sector responds as quickly as possible to the rising skills shortages caused by the introduction of new technologies. Not only will the UK not meet its Net Zero targets by not building and maintaining greener vehicles, but automotive workers, entering or already in the industry, without these new skills could get left behind.

IMI recognised this issue and responded by delivering the NOS and qualifications concurrently and therefore quickly which allows the industry to have the right skills in the right place at the right time.

The development of EV/Hybrid NOS content, and from them qualifications or units of competence is of growing importance to all sectors of the Automotive industry due to the pace of change from conventional internal combustion engine propelled vehicles only, to full EV or hybrid vehicles at a rate no one could have predicted only five years ago. The requirement to meet the service and maintenance needs of these vehicles, competently, and above all safely is paramount.

Nick Bilton, Kwik-Fit, Apprentice Programme Manager