



Gothenburg – a leader in battery and automotive expertise

Summary

In February 2022, Volvo Cars Group and Northvolt decided to establish a battery factory and a research centre in Gothenburg in the joint venture NOVO Energy. An investment of approximately SEK 30 billion. In connection with the establishment, the City of Gothenburg, the Gothenburg Region (GR), Region Västra Götaland (VGR) and Business Region Göteborg (BRG) have undertaken in letters of intent to contribute resources to education centres, relevant education, and skills development, both to enable the establishment and to meet the competence needs of other actors affected by the ongoing electrification in the transport sector. VGR intends to contribute SEK 148 million, of which SEK 45 million is for an education centre and the remaining part is directed to research, development and education, as well as efforts for recruitment. The City of Gothenburg and GR also intend to contribute up to SEK 45 million to an education centre. In addition, the City of Gothenburg and GR will contribute with efforts for recruitment and “soft-landing” and ensure access to international English-language schools at different levels.

The automotive industry is the single most important part of Västra Götaland’s economy and a driving force for the region’s capacity in research and innovation. To ensure a continued strong

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automotive industry in the region, it is important to retain skills. The electrification of industry and the transport sector is one of the greatest industrial transitions of our time and there are a number of initiatives with an emerging “battery economy” in Western Sweden. Companies face great challenges in their skills supply in the coming years. There is a need to recruit new employees with somewhat different skills and to re-skill current employees. Due to its size, it is in the national and regional interest that the automotive industry is successful in the transition: otherwise, there would be major negative consequences for the whole of society, with unemployment and reduced growth as a result.

The purpose of this report is to form the basis for further decisions for continued work on the commitments made by the public actors in letters of intent. The initiatives presented should be able to be implemented as the next step and contribute to facilitating the supply of skills in both the short- and long-term perspective. The work is based on the existing collaboration structure that exists in the region. The description of the current situation does not include skills needs linked to the battery product, the aftermarket or skills that are in demand in research and development. Geographically, the plan is limited to the Gothenburg region.

Description of the current situation

The description of the current situation contains an overview of the skills needed in the new battery factory and at the major vehicle manufacturers and conclusions drawn based on the present scope of education and training and how this matches the needs. In dialogue with NOVO Energy, Volvo Cars Group and AB Volvo, in particular, the skills needed for the various production facilities have been defined in twelve generic role types, divided into the four categories below. The estimated needs over the next five years are highly indicative and can be met through either developing the skills of existing staff or new employment. The majority of the role types require skills comparable to upper secondary school level.

Category	Number of role types	Needs 2023–2028, number of people in the Gothenburg region
Production	Five	4,650
Quality	Three	950
Maintenance	Two	1,350
Work management	Two	250
Total	Twelve	7,200

Based on a review of the scope of education and training at different levels and the future need for skills, the following conclusions can be drawn:

- 1) *The Gothenburg region is facing a great need for many new skills linked to battery and vehicle manufacturing*

The battery industry and manufacturing for electrification are growing very rapidly, globally, in Europe and in western Sweden. This brings a need for new roles and skills in the factories that are different from today’s industrial workers. Within a relatively short period of time, up to 3,000 people will be employed in the battery factory established by Volvo Cars Group and Northvolt. At the same time, there will be a great need for a transition among existing vehicle manufacturers, with new skills in demand. The compilation shows that (the right) education and training at upper secondary level is enough for a large percentage, but there is a demand for people who have (the right) education and training at all levels. However, it should be emphasised that the need for skills, from both a content

and a numerical perspective, is something that is constantly changing. There is therefore a need for continuous dialogue with the relevant companies about roles and needs to support them and the industry in their skills supply.

2) Work on different target groups is necessary to cope with the demand for skills

The extensive needs for manpower and skills in the battery industry mean that a wide range of efforts will be required to meet these needs. Four target groups have been identified in the work as being possible to work with to secure the demand that exists. These are young people of upper secondary school age, students who are going into or have graduated from higher education, existing employees in the automotive industry and other industries and jobseekers.

Attractiveness – a key to success

Today, there is great competition in the labour market and many industries find it difficult to find people with relevant skills. It can be established that the biggest challenge in the future will not be to establish and offer relevant training in battery and/or vehicle production, but to strengthen technological and manufacturing industry as an attractive industry where, above all, more young people want to work and develop further. Here, the public sector can be a support and create conditions, but it is the industry and the individual companies that will need to make both strategic and operational efforts to increase their attractiveness.

3) Good conditions for the education and training sector to meet the needs that exist

Within the Gothenburg region, there is today an extensive range of education and training in all forms of education and the region is well equipped to meet the increasing needs. Conversations with education and training providers and other actors show that the educational system has already identified the growing demand for battery and vehicle skills and taken initiatives to adjust its existing courses and programs to respond to the growing needs.

A large part of this takes place within the framework of the regular activities of the educational system. In addition to the issue of attractiveness, a general challenge arises in identifying, training, and recruiting relevant teacher competence, which is a prerequisite for a good quality of education. The forms of collaboration in the region are also well developed and it is therefore of great importance that changes in the system to meet the needs occur within the framework of the present collaboration structures.

1) The training centre consists of many learning environments

There are currently about 30 learning environments in Gothenburg and in the region for education and training at both upper secondary and post- secondary level, and more are in the process of being established by various actors. Overall, these are well equipped with relevant equipment although there are opportunities for improvement. Thus, it is considered that there is no need from the public side to establish additional learning environments for education, but it is considered more important to strengthen those that already exist - either through more and better equipment or more space and capacity for education. These also need to be made available to companies in order to be able to perform skills development and introductory training.

2) Need for continued coordination and collaboration

One of the region's strengths is the collaboration structure that has been established between business, education providers and the public sector. Given that further strategic efforts and initiatives will be needed in the future and that the needs of companies will develop and change, it is of the utmost importance that collaboration continues and that there are resources to be able to maintain it.

Implementation plan

By establishing a common and clear ambition, the *conditions* and expectations are created to work together on lifelong learning for all the target groups involved. The ambition can be summarised as *Gothenburg as a leader in skills in the battery and automotive industry* and expresses a long-term direction for the work that all actors can support. A number of initiatives and efforts will be required in order to achieve the ambition. This needs to involve businesses, the educational system, parties in the labour market and public actors, where collaboration between them is a prerequisite for success.

Twelve initiatives in five areas have been identified to meet the needs. Responsibilities for implementation of the initiatives have been assigned to the involved public actors. Where necessary, support in implementation will take place through the additional funds allocated by the City of Gothenburg and Region Västra Götaland. The initiatives are:

Company-specific initiatives – where customised trainings are carried out, aimed at companies and based on company-specific plans. This also includes ensuring that companies have access to relevant learning environments.

Attractiveness – where strengths are gathered to create an attractive “battery industry” regardless of whether it is young people, unemployed or people who need to be retrained. It is about creating conditions and strengthening companies’ opportunities to be able to work on their attractiveness.

Education initiatives – although there is a rich supply of relevant education and training in the region, further mobilisation needs to take place through efforts at most levels of education. This include increasing

the intake of students to upper secondary schools on relevant programmes, expanding the offers in vocational adult education, assisting in ensuring that relevant higher vocational education is planned and implemented and collaborating with universities. A special effort is being made to strengthen teacher competence in all forms of education. Efforts are also made aimed at the unemployed and a model is being developed to use the new transition study support for re-and upskilling employees.

Strengthen learning environments – although there are many learning environments in the region that offer relevant education and training, there is a need to increase both capacity and quality in these through targeted investments that enable more extensive activities. Initially, an inventory needs to be made of the needs for equipment and other items, as well as the organisers’ ambitions for the learning environments. After that, a detailed investment plan needs to be developed and decided.

Implementation of the initiatives described above occurs in several stages, where BRG coordinates the measures through a working group consisting of representatives from BRG, the City of Gothenburg, VGR and GR. The working group will continuously engage in dialogue with the companies in question about needs and implementation of the measures. As described above, both VGR and the City of Gothenburg have allocated financial resources to support the work of implementation. Decisions on how these are to be used are made by each organisation. The working group creates a common overall picture of resource needs.

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