

Environmental and Social Data Sheet

Overview

Project Name:	IQM Quantum Computing (EGF VD)
Project Number:	2021-0429
Country:	Finland, Germany, Spain
Project Description:	The project concerns the R&D efforts as well as the investments into a new clean room facility including tools for the development of more advanced versions of an European Quantum Computer. The project is located mostly in Helsinki (Finland) and Munich (Germany). There are also plans to further expand the footprint and add more sites such as Bilbao (Spain) for the development of solutions in the finance sector. The R&D activities span over the period from 2021 to 2023.
EIA required:	No
Project included in Carbon Footprint Exercise ¹ :	No
(details for projects included are provided in section: "EIB Carbon Footprint Exercise")	

Environmental and Social Assessment

Environmental Assessment

Semiconductor manufacturing facilities and RDI for Quantum computing semiconductors are not specifically covered by Annexes I & II of EU Directive 2014/52/EU amending the EIA Directive 2011/92/EU and are therefore not subject to mandatory environmental impact assessments.

For the manufacturing component of the project, the proposed investment programme includes the setup of a new chip manufacturing line including the related clean room. All this will be installed within an existing warehouse facility. The converted facility will include further sections used for chip testing and R&D in Quantum computers. The chip manufacturing capacity will be limited, in the beginning it will be mostly used as a pilot line, gradually growing with demand for Quantum computers but still operated with a much smaller capacity compared to commercial chip mass production lines.

Due to this very small scale of the planned chip production, the authorities did not require a specific permit as the expected environmental impact on the surroundings is considered limited.

¹ Only projects that meet the scope of the Carbon Footprint Exercise, as defined in the EIB Carbon Footprint Methodologies, are included, provided estimated emissions exceed the methodology thresholds: 20,000 tonnes CO₂e/year absolute (gross) or 20,000 tonnes CO₂e/year relative (net) – both increases and savings.

Luxembourg, 15/12/2021

The applied chip manufacturing technologies do not aim for very small structures and highest volumes. It is more about the production of chips for applications with special super conducting materials based on proven technologies with normal tools. The testing and the operation of such devices will require strong cooling. All this is considered early stage development and it will require constant refinements in the small scale production process as a part of the R&D efforts.

Other Environmental and Social Aspects

The Promoter is a young company, which was founded in 2018. Therefore the company has not yet developed an extensive environmental management system as it was operating with a very small team using an existing chip manufacturing line. However the company aims in the medium term to obtain the industry standard certifications according to ISO 9001 and ISO 14001.

Conclusions and Recommendations

Semiconductor manufacturing facilities and RDI for semiconductors are not specifically covered by Annexes I & II of EU Directive 2014/52/EU amending the EIA Directive 2011/92/EU, and are therefore not subject to mandatory environmental impact assessments.

The company is a startup company and therefore the chip production volumes and the operation of super conducted computers in their lab are and will remain limited compared to commercial computer chip manufacturing facilities or data centres.

Overall, the project is eligible for EIB financing in environmental and social terms.