

R&D PROGRAM



INTRODUCTION

Green Electrification 2035

Platforms for optimal power generation and use in a carbon-neutral society

ABB Oy



Green Electrification 2035 program to achieve carbon neutrality target

A world-class R&D program to develop platforms for optimal power generation and electricity use

Target

- To develop new integrated technology platforms for optimal electricity generation and use by combining modern 5G communication technology, data management, new electrical engineering solutions and power grid technology
- In the future, an increasing number of physical devices will be replaced by digital solutions that communicate with each other in a cyber-secure way
- The resulting system can react quickly to changed conditions, while minimizing energy loss and malfunctions
- The program will deliver in cooperation with its ecosystem partners controllable and safe overall solutions that optimize system-level energy efficiency and reliability
- The solutions are scalable, meet the growing demand for energy efficiency, and encourage platform ecosystem participants to become more competitive and grow internationally



Sustainable and competitive solutions with innovation ecosystem

Optimizing system-level energy efficiency and reliability

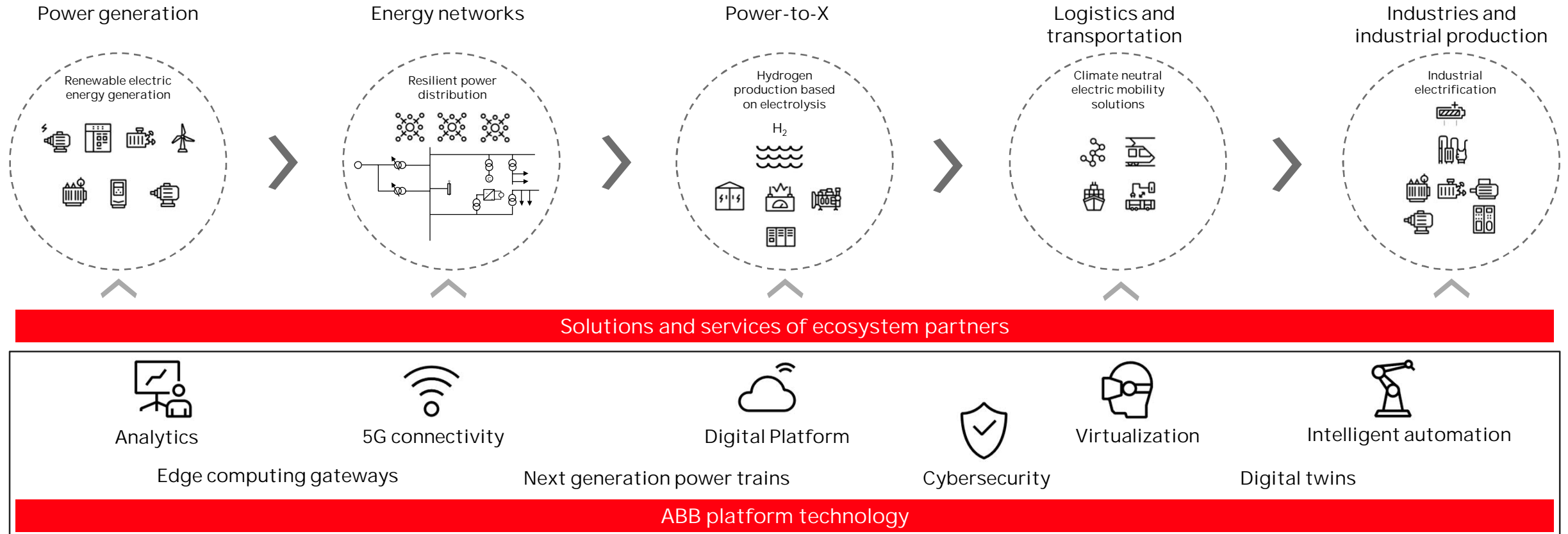


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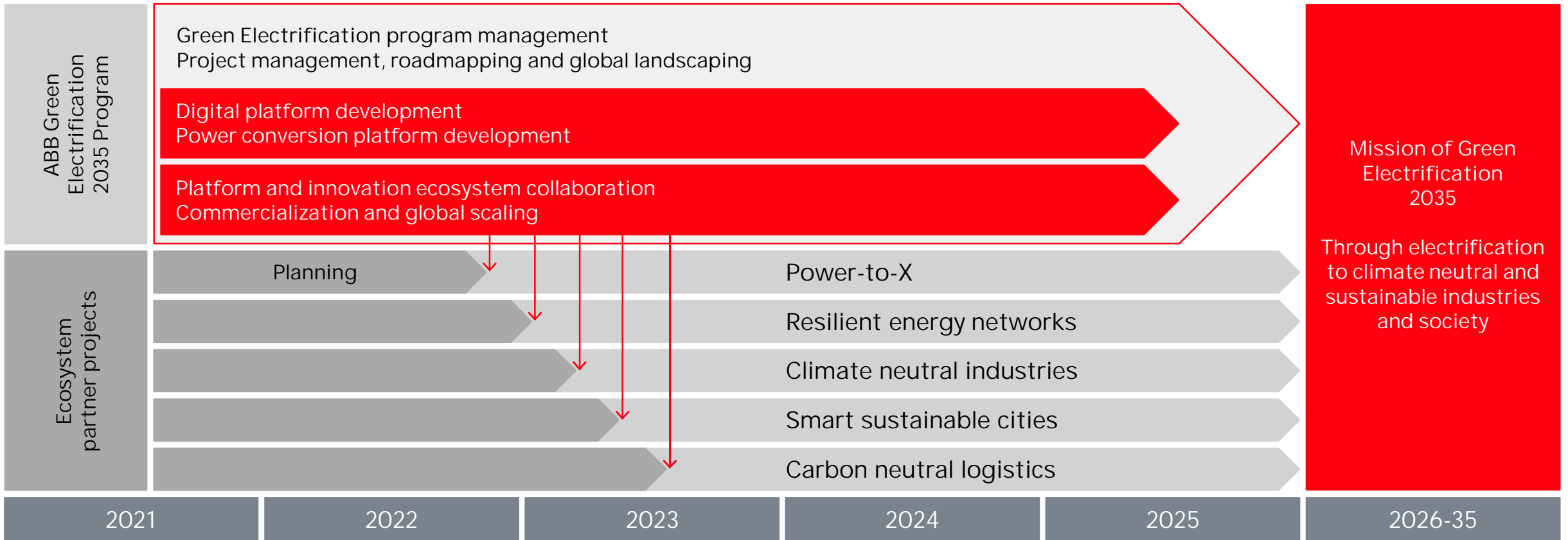


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Ecosystem research and co-innovation focus areas 2021

Topics for co-innovation projects

- Power-to-X, CCUS and Resilient energy networks
- Industrial electrification and sector coupling for optimized energy system efficiency and resiliency
 - New technologies and their utilization

Digital Platform

- Cross-organizational DevSecOps practises to achieve resilience of autonomous critical infrastructure systems

5G

- Slicing services for critical infrastructure
- New technologies and their utilization

Topics for research projects

5G and Cybersecurity

- Infrastructures to support research, testing and validation of the ABB GE2035 technology platforms

Power-to-X and CCUS

- Research infrastructures to support the fundamental research and E2E efficiency optimization



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