



## SANDVIK SHIFT '25

### BUSINESS FINLAND VETURI FUNDING

*”Sustainable mining with ecosystem co-operation - Sandvik will keep it’s position as a global leader”*

*”There is no long term success for global industrial companies in Finland, if there is no world class research in Finland”*

- Sandvik will develop globally scalable solutions for mining industry utilizing digitalization and electrification technologies.
- Sandvik sustainability strategy is planned to create success to various interest groups, taking into account societal, environmental and financial needs.
- Sandvik works in deep co-operation with Business Finland, industrial partners, research institutes and universities.





# SANDVIK SHIFT '25

## DIGITALIZATION

- **AUTONOMY:** Mining operations, functions and tasks planned taking into account current environment, other machines around and given freedom of autonomous planning.
- **WIRELESS:** Smart and autonomous mobile machinery systems having need for example increased bandwidth and use of wireless technologies must be adopted.
- **ENVIRONMENTAL SENSING:** Holistic environmental awareness with sensor fusion and in mine site wide scale.
- **ANALYSIS AND MACHINE LEARNING:** Autonomous machines need continuously learn to survive in more complex operating scenarios.

## ELECTRIFICATION

- **MOBILE ELECTRIC EFFICIENCY:** Next wave of mobile electric machines having more freedom of design and can be truly designed to be only electric.
- **ELECTRIC CONNECTIVITY:** New solutions needed to link mobile machinery to energy infra of mine. Several new types of electrical connection solutions, including control and data solutions, is needed.
- **ELECTRIC FLEET MANAGEMENT:** New way to integrate electric fleet and vehicle performance on system level in mining process.





# SANDVIK SHIFT '25 ECOSYSTEM

## NETWORKED WAY OF WORKING

*"We want to develop successful business solutions for mining industry and improve safety and productivity as a part of an ecosystem"*

## COLLABORATION

- VETURI COMPANIES: Cross industrial collaboration with other Veturi companies.
- ECOSYSTEMS: SIX supercluster for mobile working machine building, activation of new ecosystems and international footprint.
- APPLIED RESEARCH ENVIRONMENTS & TEST BED: Sandvik Test Mine as a test bed available in coordinated use for partners and ecosystems.

GLOBALLY COMPETITIVE, ELECTRIFIED AND DIGITALIZED, HEAVY WORKING MACHINES





SANDVIK

## SANDVIK SHIFT '25 ECOSYSTEM

### DIGITALIZATION

- Data based lifecycle services
- Machine self awareness and communicational capabilities with infrastructural systems
- Mobile machinery robotics
- AI and machine learning based based adaptability for machine controls
- Connectivity solutions and networks
- Safety critical solutions

### ELECTRIFICATION

- Smart and electrified hydraulic systems for mobile machinery
- Harsh condition battery systems and life cycle analysis
- Flexible highpower charging connectivity
- Electric supply ifrastructure for mobile machinery fleet
- Fleet productivity optimization
- Machinery system thermal management

THERE IS NO LONG TERM SUCCESS FOR GLOBAL INDUSTRIAL COMPANIES IN FINLAND, IF THERE IS NO WORLD CLASS RESEARCH IN FINLAND

