Embracing Digital Transformation and Technological Development

Transforming the Way the World Works
The industrial revolutions

First Industrial Revolution
1765

Second Industrial Revolution
1870

Third Industrial Revolution
1969

Fourth Industrial Revolution
Now
The three first industrial revolutions

- The First Industrial Revolution used water and steam power to mechanize production.
- The Second used electric power to create mass production.
- The Third used electronics and information technology to automate production.
Fourth Industrial Revolution

- digital revolution,
- fusion of technologies that is blurring the lines between the physical, digital, and biological spheres,
- velocity, scope, and systems impact,
- transformation of entire systems of production, management, and governance,
- billions of people connected by mobile devices, with unprecedented processing power, storage capacity, and access to knowledge.
Fourth Industrial Revolution

- artificial intelligence,
- robotics,
- Internet of Things,
- autonomous vehicles,
- 3-D printing,
- nanotechnology,
- biotechnology,
- materials science,
- energy storage,
- quantum computing
We differentiate at the connection of the digital and physical worlds
Improved Productivity Yields Rewards

**Economic Breakthroughs**
- Enhanced ROI
- Higher Yields
- Better Asset Utilization

**Quality, Safety, and Compliance**
- Higher Quality of Data
- Enhanced Worker Safety
- Greater Regulatory Compliance

**Environmental Stewardship**
- Reduced Fossil Fuel Use
- Reduced Chemical and Water Use
- Less Waste
Collaboration & Interoperability

**POSITIONING AND SENSING**
Sensing and measuring in a geospatial context

**MODELING**
Software for design, scheduling, visualization, cost, maintenance and operations

**ANALYTICS AND OPTIMIZATION**
Decision support, predictive indicators
Core Industry Focus

- Geospatial
- Heavy Civil Construction
- Building Construction
- Agriculture
- Transportation & Logistics
Transforming
THE WORK OF GEOSPATIAL PROFESSIONALS

A suite of advanced solutions across the entire data collection, processing, modeling and analysis workflow, leading to:

- Faster Project Completion
- Reduced Re-work, Labor
- Enhanced Quality
- Enhanced Service Capabilities
- Enhanced Worker Safety
Transforming
AGRICULTURE – PLANNING, GROWING AND HARVESTING

Enabling more informed decision making, leading to:
- Higher machine utilization
- Lower seed, fuel and chemical costs
- Improved yield and profitability
- Reduced environmental impact

Machine and worker optimization
Planning and mapping
Prescription and yield analysis
Asset monitoring
Topographic management
Productivity recommendation
Financial management
Transforming
HEAVY CIVIL CONSTRUCTION – PLANNING, DESIGNING, BUILDING AND OPERATING

Enhanced information, decision making and control across the entire project lifecycle, generating benefits including:

- Faster completion
- Reduced fuel, re-work, labor
- Enhanced worker safety
- Reduced environmental impact

Feasibility and planning  Survey  Design  Estimation  Earthworks  Construction  Maintenance and operation
Transforming
THE WORK OF BUILDING DESIGN, CONSTRUCTION & OPERATION

A suite of solutions for the entire design-build-operate lifecycle, generating results including:

- Faster completion
- Reduced re-work, labor
- Improved quality, collaboration & data flow
- Improved asset & facility lifecycle management
Trimble solutions for long haul trucking, field service management and construction logistics track and manage over 1,000,000 assets globally, operating on every continent.

- Productivity
- Asset Utilization
- Compliance
- Fuel Use
- CO₂ Emissions
- Claims Costs
- Empowerment of Field Workers and Customers
- ≈30% Improvement
- ≈30% Reduction
Emerging Businesses

- Rail
- Environmental & Waste
- Water Utilities
- Electric Utilities
- Mining
- Forestry
- Field Service
- Oil, Gas, & Chemical
Transforming Water & Wastewater Utilities

- Improving Asset Management and Performance
- Optimizing Water and Wastewater Operations
- Enhancing Worker Safety and Productivity
- Improving Customer Service and Response
- Reducing Leakage and Non-Revenue Water
- Minimizing Flooding and Environmental Impacts
Transforming Electric Utilities

- Digital Mapping and Data Collection
- Asset Management
- Mobile Solutions
- Investment Planning
- Network Planning & Design
- Distribution and Outage Management
- Transmission Rating
- Vegetation Management
- Augmented Reality
- Analytics
Transforming Field Services

- Work Scheduling & Allocation
- Mobile Solutions
- Fleet Telematics
- Augmented Reality
- Connected Collaboration
- Business Simulator
- Driver Safety
- Services & Support
Transforming Government

- Asset Management
- Mobile Solutions
- Emergency Management
- Geospatial 3D data management
- Warehouse Management
- Land Administration
- Permits and Licensing
- Constituent Engagement
- eServices
Enabling a sustainable future

Clean water & sanitation
Affordable & clean energy
Industry, innovation & infrastructure
Sustainable cities & communities
Responsible production & consumption
Changing climate & action

We have a responsibility to leave our world better than we found it
Questions?