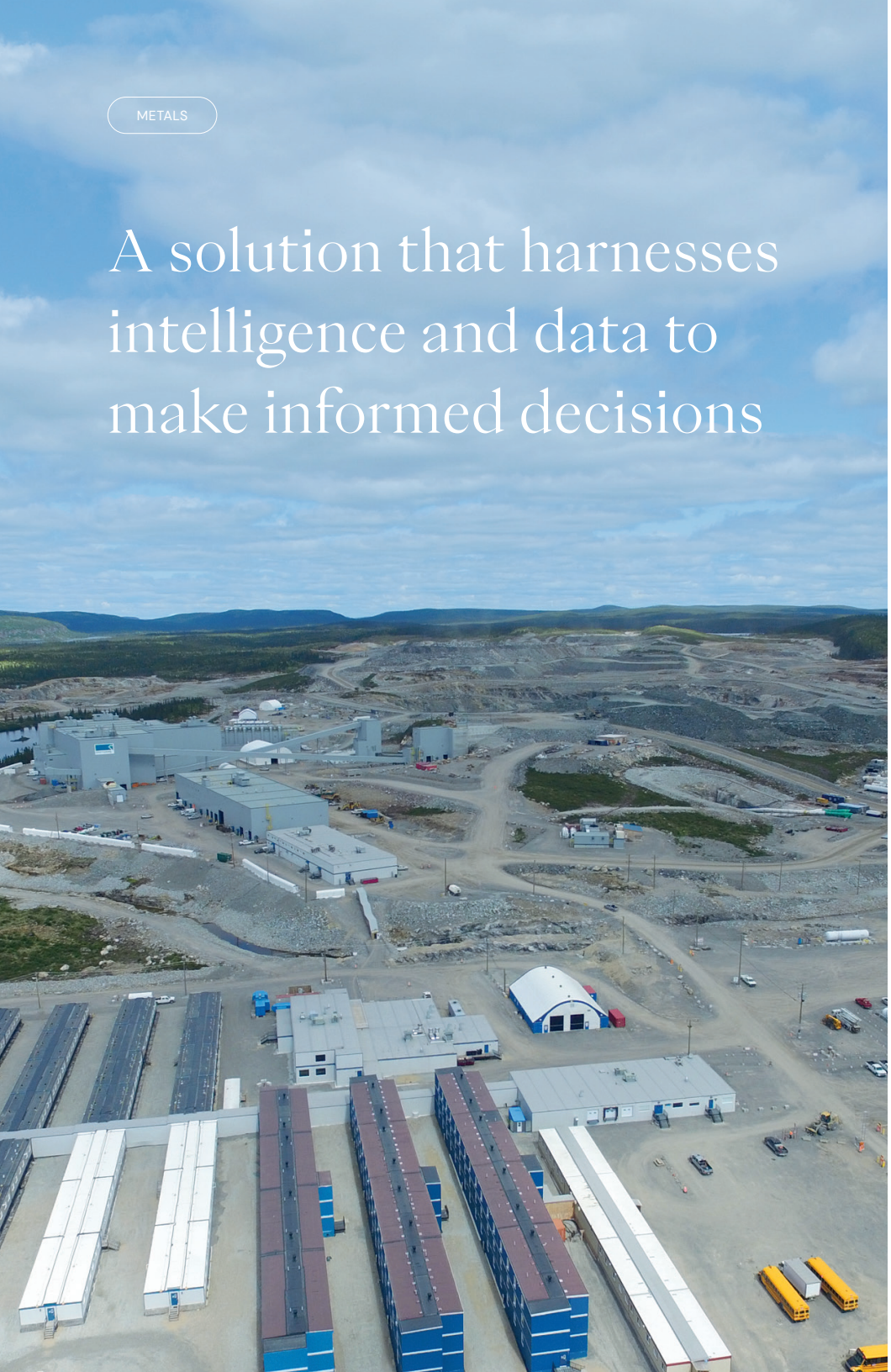
STELAR
METALS

Mines, aluminium smelters, primary processing plants

METALS

Stelar transforms the practice of asset durability experts through data intelligence.

A solution that harnesses intelligence and data to make informed decisions



Open and collaborative innovation platform

Maintaining the overall health of your mine, aluminium smelter or your primary processing plant asset base is critical to meeting the economic, operational, environmental and societal imperatives that affect your organization, and your community.

In this context, adopting a technological tool to manage your asset data represents one of the necessary foundations to meet your organizational commitments. A structured, centralized, and intelligent data management tool will allow you to go beyond traditional, and isolated operations. As a result, your asset sustainability and reliability experts will leverage reliable data to help you implement sustainable solutions for safer, more efficient, and profitable asset operations.

Stelar helps make fast, efficient, and agile decisions to extend the life of your asset portfolio.

It is a digital tool geared towards asset performance, strategic planning, and ESG data with artificial intelligence algorithms. Stelar offers the opportunity to gather, centralize, leverage, and act with secure, high-value data.

Smart management of assets: a practical approach that generates substantial benefits

Stelar's platform

STELAR ACTION CHAIN

This chain represents Stelar's distinctive and essential functions towards improving the health of your assets.

GATHER

Retrieve previous data

Collect data via forms, IoT sensors, and machine systems

Connect existing operational systems

CENTRALIZE

Structure data to facilitate processing

Secure all types of data

Find data easily and quickly

LEVERAGE

Analyze the data through stats, calculations, and aggregations

Process the data through AI tools

Modules offering functional and specialised complements

ACT

Visualize the data through dashboards

Control, export, and **transfer** data

Predict and **alert** according to pre-registered parameters

Suggest actions according to past events

HARVEST

Maximize your performance

Protect the environment

Enhance your reputation

Operational benefits

Combining Stelar with the know-how of asset durability experts addresses corporate, operational, and field requirements:

- Supports CAPEX and OPEX investment decisions.
- Provides an overview of asset condition, residual life, and assets at risk.
- Provides insightful financial, environmental, social, and governance (ESG) data.
- Reduces downtime, major breakdowns, and unforeseen expenses.
- Improves the efficiency of maintenance activities by digitizing operations.

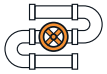
Asset types

BUILDINGS

STRUCTURES

PROCESS TANKS

PRODUCTION EQUIPMENT



PIPING NETWORKS

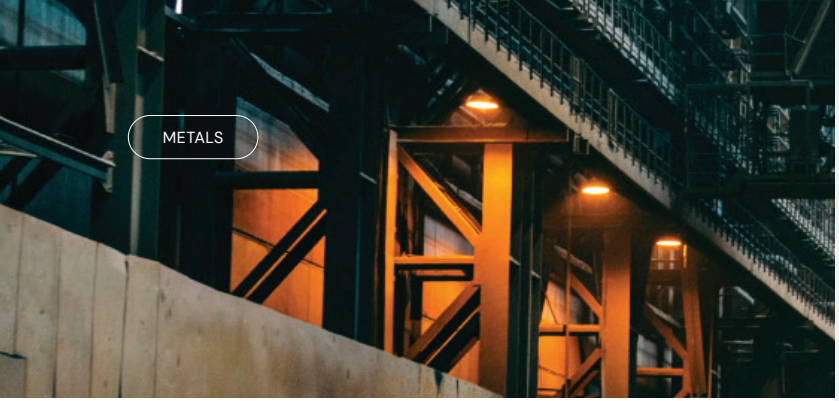
RAILWAY NETWORKS

BRIDGES

ROADS

PORT ASSETS

Turn your challenges into strengths!



Tackle and resolve key issues

Durability experts work with Stelar to respond to your specific needs in mine, aluminium smelter or your primary processing plant asset integrity and reliability.

Here are the key challenges that are addressed and resolved when experts use Stelar:

Your plant managers focus on production equipment because that's where the day-to-day issues are. However, they neglect the maintenance of the associated infrastructure, which greatly increases the potential for breakdowns and downtime.

RECOMMENDED STRATEGIES

- Digitize your inventory when developing a complete diagnostic of your asset base, including infrastructure.
- Centralize and structure past and current information by asset, ranging from reports to data in various formats and sources.
- Perform lifecycle and criticality analyses, as well as degradation simulations on a computing platform.
- Analyze your data quality by asset and adopt a sound data policy.
- Start accumulating new relevant data by setting up a structured inspection protocol, using a digital tablet, to obtain comparable readings year after year across different stakeholders.

YOUR BENEFITS

- Work with high-value data.
- Gather and access all your asset data in one place.
- Avoid reminders and warnings from regulatory inspectors.
- Provide visibility and predictability on potential infrastructure failures.
- Centralize your materials analysis and degradation rate data.
- Control the quality of inspections and collected data.
- Develop a data entry structure encompassing all potential stakeholders (experts, consultants, etc.)
- Discover defects at the right time with calculated monitoring.
- Get a history by asset with comparable data.
- Ensure data consistency.
- Take full advantage of the insights of asset durability experts.

Tackle and resolve key issues

Developing a strategic asset management plan is demanding, complex and arduous, yet essential to the longevity of your asset base.

RECOMMENDED STRATEGIES

- Establish an asset management objective: cost reduction, stabilization of operations or business growth.
- Build a repository of centralized, structured data, making it easy to find relevant information.
- Easily view and analyze reports from a variety of sources and formats.
- Consider the history of actions taken, in addition to budgets spent per asset.
- Build a capital investment plan based on the level of criticality and degradation of both your production and static assets.
- Set up a scalable dashboard to track your relevant indicators.
- Structure a global asset maintenance strategy for the short, medium and long term.

YOUR BENEFITS

- Own all the information related to your assets to facilitate the development of your strategic plan.
- Cross-reference compatible data for analysis.
- Use the time saved to add value to your strategic plan.
- Balance budgets allocated to static and production asset priorities.
- Reduce emergencies and maximize the predictability of your investments.
- Ensure a clear vision of your medium and long term projects.
- Reduce significant downtime due to infrastructure deficiencies.
- Maximize the impact of minor interventions.
- Protect your major infrastructure investments.
- Achieve your medium and long-term business plan with a healthy infrastructure.

Tackle and resolve key issues

Your organization is faced with many retirements of experienced employees and can seldom count on employees who are as loyal, specialized or efficient as before.

RECOMMENDED STRATEGIES

- Digitize the recording of information concerning interventions and their reasons, in a structured manner using a technological tool.
- Centralize and analyze quantitative and qualitative data collected during inspections or surveys.
- Implement a decision support tool for asset managers.
- Provide digital tools that are up-to-date for field staff and essential for senior management.
- Support the work of employees with structured processes using powerful and easy-to-use technological tools.
- Standardize data collection with inspection and survey forms via the Stelar mobile app.

YOUR BENEFITS

- Simplify asset management with a decision support tool.
- Provide your employees with technology tools to make their jobs easier.
- Build a virtual collective memory for your organization.
- Ensure the transfer of knowledge from one employee to another.
- Avoid starting from scratch each time an employee leaves.
- Ensure structure and consistency in asset management operations.
- Support your Maintenance Command Center.

Tackle and resolve key issues

The requirements to meet ESG standards, social responsibility and decarbonization of your production are now unavoidable.

RECOMMENDED STRATEGIES

- Implement a quantitative tool to measure the impact of your activities for ESG audits.
- Record carbon emissions by asset and simulate emissions avoided by extending their useful life.
- Track the results of your TSM actions with Stelar.
- Simulate resilient infrastructure retrofit scenarios to better predict their life cycle.
- Predict and reduce the environmental impacts of construction that affect the organization's carbon footprint.
- Encourage buy-in and commitment from investors to your socially acceptable projects by using Stelar to showcase your vision and approach to asset management.

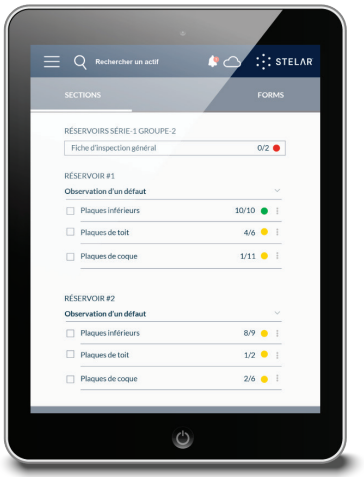
YOUR BENEFITS

- Make it easy to track TSM measures.
- Enhance the environmental performance of your assets.
- Measure the quality of your environmental interventions.
- Translate your environmental efforts into carbon credits attributable to carbon avoidance.
- Strengthen your position as a responsible corporate citizen.
- Establish a track record of good governance to attract and secure new investments and projects.
- Compound the benefits of a collaborative approach to asset management with your investors, employees and community.

A powerful tool that combines expert knowledge and data intelligence

Bridge the gap from data to decision making

The platform provides a 100% digital framework to support all your asset survey operations. Through our mobile application, your inspectors can record observations via dynamic forms customized by asset integrity and reliability experts. This organized and structured process results in automated reports that accelerate informed decision making.



Mobile application

Key features of the platform:

- Dynamic form engine
- Asset structure hierarchy
- iOS and Android mobile application
- Dashboards of collected data
- Data import/export
- Automated statistics and reports
- Automated storage and secure backup

Durability experts X Stelar: anticipated benefits

20 to 25%

Increase in the lifespan of your assets

50%

Hours saved on capital investment and asset maintenance budget preparation

10%

Savings on maintenance and inspection costs

2% to 6%

Improvement in equipment uptime

Specialized modules that leverage your data

In addition, asset durability experts develop powerful modules:

Module designed by
Norda Stelo Solutions

CAPEX MODULE

This module facilitates project management at the asset portfolio level. It allows organizations to plan, approve and track the entire CAPEX and OPEX investment process. It helps to prioritize the integrity related projects within the project portfolio based on the benefits and performance indicators that are targeted.

HEALTH INDEX AND ASSET LIFE MODULES

These modules help assess asset lifespan and provide a view of health status. This data can serve to generate an alert anticipating potential failures.

(Modules under development)

ENVIRO MODULE

The module makes it possible to measure the environmental outcomes produced (p.ex.: GHG emissions, due to the fabrication of the asset or its operation) or used (e.g. water or energy consumptions) by each asset in order to relate this to its health condition.

(Modules under development)

PUSH DECISION-MAKING FORWARD

STELAR

2022/05/26