Smart Industrial Assistant (SIA)

Transforming the future of work
for the frontline industrial workforce

Digital dexterity and actionable intelligence on the last tactical mile

The influx of technology has driven unprecedented expansion in many organisations, however, the frontline industrial workforces have only experienced a limited impact from such initiatives.

A digital workplace transformation cannot be complete without understanding and augmenting the digital dexterity of our industrial workforce.
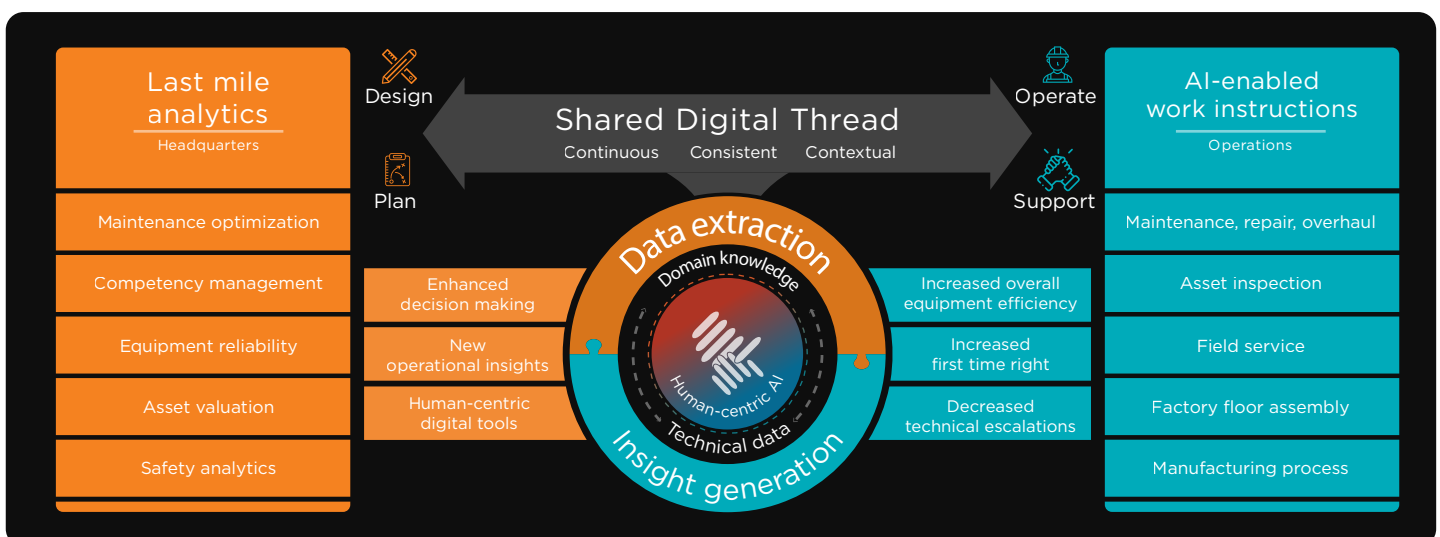
This is where HCL Technologies Smart Industrial Assistant (SIA), an exclusive AI solution built for the industrial workforce, comes in, to transform the future of work.

SIA promises to enable higher digital engagement and accelerate workplace transformation by delivering actionable intelligence in the hands of the industrial workforce to the last tactical mile.

Real-time industrial insights

Today's industrial employee needs the right knowledge, at the right time, on the right device. Using a combination of data extraction, machine learning and natural language interfaces, the SIA insight engine increases situational awareness, builds semantic understanding of dynamic data environments, reduces cognitive overload, and enables peer-to-peer knowledge sharing.

Last mile analytics		AI-enabled work instructions
Headquarters		Operations
Maintenance optimization		Maintenance, repair, overhaul
Competency management	Enhanced decision making	Increased overall equipment efficiency	Asset inspection
Equipment reliability	New operational insights	Increased first time right	Field service
Asset valuation	Human-centric digital tools	Decreased technical escalations	Factory floor assembly
Safety analytics		Manufacturing process

Design / Plan / Operate / Support

Shared Digital Thread
Continuous   Consistent   Contextual

Data extraction
Domain knowledge
Human-centric AI
Technical data
Insight generation

Empower technicians to have conversations with machines about error codes, maintenance procedures, service bulletins, or past performance. And as we continue to enable digital dexterity for our frontline workforce, industrial jobs will become more accessible and inclusive, which in turn will help to address the global labor skills gap. Imagine 'Siri' but trained on enterprise systems, domain knowledge, technical data and IoT sensors specifically designed for an industrial environment.

Last mile analytics

Better decisions about the last tactical mile

The SIA Insight engine extracts, structures, and fuses previously inaccessible industrial data to provide new analytical insights and curated decision support for the frontline workers. Most large industrial data environments contain a wide variety of disparate and disconnected data sources including non-standard data such as hand-written notes, scanned PDF documents, and live equipment sensor data feeds. The SIA Insight engine leverages machine learning and natural language processing techniques to derive actionable intelligence from enterprise data stores and enhance operational oversight.
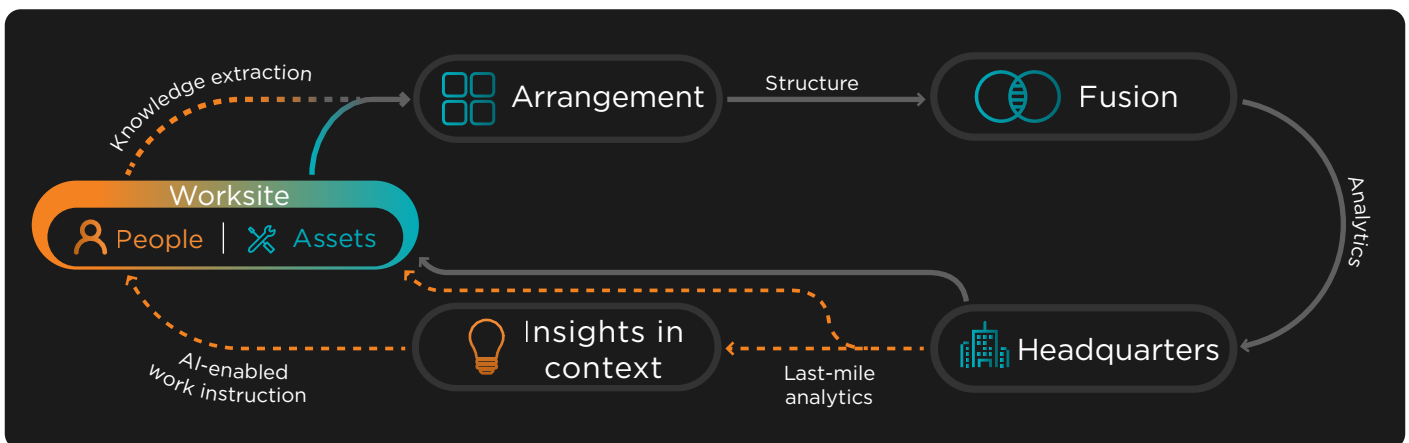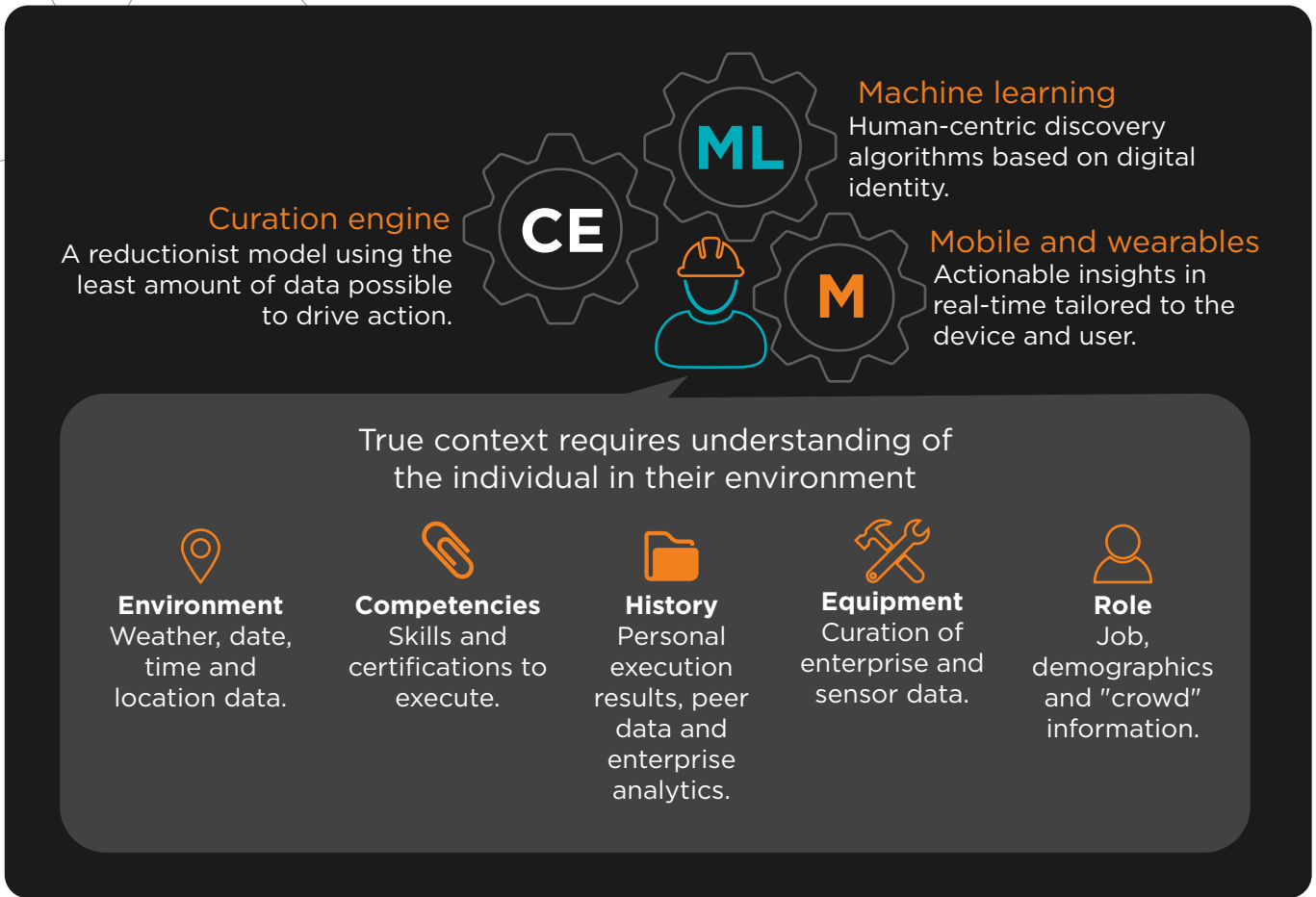

AI-enabled work instructions

Better decisions on the last tactical mile

Real-time, context-driven guidance and insights for frontline technicians. Our advanced virtual assistant delivers reference materials, task guidance, safety alerts, sensor data, and contextual insights to industrial workers in real-time, curated to their digital identity.

It understands a user's location and role, as well as equipment status, to define and deliver intelligent guidance/work-order instructions through an intuitive conversational interface on a mobile or wearable device or Microsoft Teams. Our insight engine and advanced virtual assistant are uniquely designed for on-the-job requirements of technical personnel operating, repairing, and maintaining complex equipment.

Machine learning
Human-centric discovery algorithms based on digital identity.

Curation engine
A reductionist model using the least amount of data possible to drive action.

ML

CE

M

Mobile and wearables
Actionable insights in real-time tailored to the device and user.

True context requires understanding of the individual in their environment

Environment
Weather, date, time and location data.

Competencies
Skills and certifications to execute.

History
Personal execution results, peer data and enterprise analytics.

Equipment
Curation of enterprise and sensor data.

Role
Job, demographics and "crowd" information.

Business benefits

50% reduction in non-productive time

Increase employee productivity and equipment uptime.

95% first time right

Eliminate rework and human error on the last tactical mile.

50% fewer technical support escalations

Increase employee engagement while decreasing technical support escalations.

30% acceleration in time to proficiency

On-the-job upskilling, accelerating time to proficiency and improving digital literacy.

The future of work with HCL Technologies Smart Industrial Assistant

Creating a better workplace

Workers will be spending less time working collaboratively due to physical distancing requirements. This creates an acute need for employees to have real-time access to knowledge, human-centric technology and the ability to leverage proximity. In this scenario, enterprise insights in situational context delivered in real-time based on digital identity through an advanced virtual assistant will empower employees to work independently and drive exponential improvements in safety and productivity.

Empowering the last tactical decision

With the SIA insight engine, organizations can extract, streamline, correlate and curate large volumes of equipment and technical data to provide immediate insights for faster decision making.

Accelerating digital transformation

Real-time access to IoT data and AI-enabled work instructions allows the innate skills and knowledge of frontline workers to be more effectively utilized, shaping a more productive, engaged, and digitally literate workforce.

Skilled workforce development

The evolving workplace will witness their ageing workforce transition to a millennial workforce, with mixed reality and wearables devices becoming a norm. Improved knowledge capture and human-machine optimization enables frontline workers to perform faster, safer, and with greater degree of autonomy.

To know more about our **Smart Industrial Assistant** contact us at dwp@hcl.com

HCL

HCL Technologies (HCL) empowers global enterprises with technology for the next decade today. Through its deep-domain industry expertise, customer-centricity and entrepreneurial culture of ideapreneurship™ enables businesses to transform into next-gen enterprises.

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