

DIWO



The **Digital Workplace Suite** is the **outcome of the Engineering – Comau joint initiative** aiming at the design and implementation of a smart, modular, flexible and Industry 4.0 compliant suite of products enabling the Customers to maximize efficiency, productivity and quality in their manufacturing plants.

Joint development of an application framework, based on best-in-class technology platforms, for the collection and analysis of field data, to predict and anticipate potential malfunctioning of machines and tools and the negative trends in the quality of the manufacturing processes.

DIWO suite is composed by 4 modules:

→ **DIWO VIRTUAL PLANT**

Virtualising shop floor by enabling read/write operations and event notification

→ **DIWO MAPS**

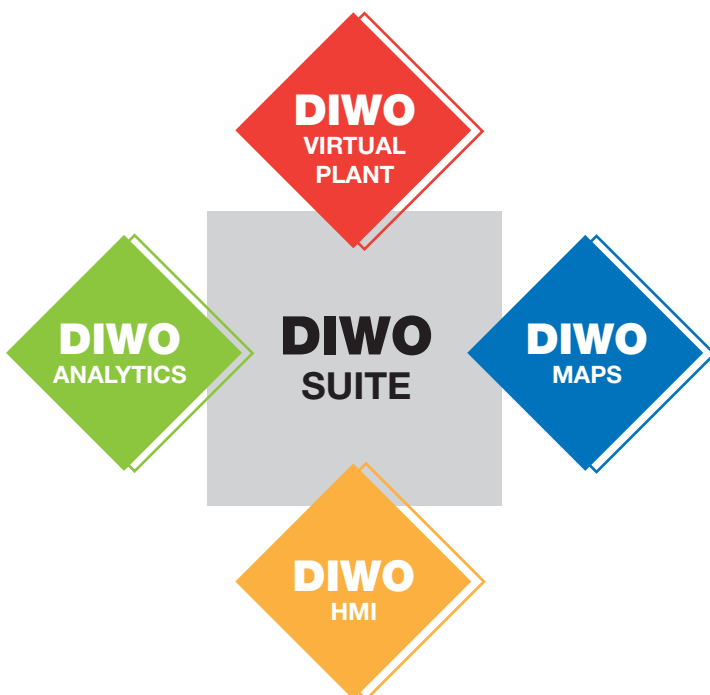
Enabling Customers to perform real-time monitoring and analysis of production lines/units behaviour

→ **DIWO HMI**

Enabling Customers to use their manufacturing applications in an easier way all over the plants

→ **DIWO ANALYTICS**

Enabling Customers to take advantage of open standards for Big Data & Analytics



DIWO^{HMI} SmartWatch

DIWO^{HMI} Smartwatch is part of this suite and is a smart, modular, flexible and Industry 4.0 compliant software product enabling the Customers to use their manufacturing applications in an easier way all over the plants.

Although **DIWO^{HMI} Smartwatch** is perfectly integrated in the **DIWO suite**, it has also been thought to be integrated, as a light, smart wearable Human/Systems interface, into new or existing/legacy and 3rd parties' systems supporting plant operations (MES/MOM, Quality, Tracking & Tracing, Logistics, Plant Maintenance, Operator Support, etc.).

DIWO^{HMI} SmartWatch for turning consumer and industrial 'smartwatches' into wearable machine/process/systems interfaces to be used into production environments.

MAIN FEATURES

- User & Workplace association
- Work safety and workplace organization reminders
- Production sequencing (orders, lots, etc.) visualization
- Alarm/Defect visualization and acknowledge
- Team leader/material refilling calling
- Line Stop request/commands

BENEFITS

HANDS-FREE USER EXPERIENCE

Allows receiving messages and sending acknowledges while keeping hands free for use.

FULL VISIBILITY AND CONTROL ON THE PLANT FLOOR

- Managers may quickly access to real-time information and provide faster and more reliable response
- Reduce useless activities
- Helps Operator to perform those activities in order to optimize efforts and reduce time which would be wasted otherwise

ENHANCE EMPLOYEE PRODUCTIVITY

Clocks in Operator to begin the work by receiving instruction for tasks to be carried out.

PERSONALIZED INFORMATION

Specific data and critical information, tailored on Operator current task, will be at immediate disposal by making work more productive and efficient.

ANTICIPATE DISRUPTIONS ON PLANT FLOOR

Operator can receive instant notifications of any issue and fix it immediately.

CHEAP AND QUICK PROFESSIONAL SOLUTION

A professional solution that does not request expensive and bulky infrastructure and easily embedded in already existing systems.

THE GATEWAY TO THE IOT WORLD

One of the most integral device in the IoT vision.

CAPABILITIES, FUNCTIONALITIES, AUTHENTICATION & ASSOCIATION

CAPABILITIES

- Manage text, video, audio and sensorial information (Buzzer)
- Manage additional peripherals (e.g. barcode readers)
- User identification and Workplace association based on NFC
- Fitted into protective industrial gloves
- Entering / leaving the working area detected via BLE technology

FUNCTIONALITIES

- Receive alarm notifications
- Receive instructions and informations for specific operations or products
- Notify emergency situations, needs, events and launch next level support requests
- Confirm tasks completion
- Go through safety oriented checklists

AUTHENTICATION & ASSOCIATION

AUTHENTICATION

Operator authentication is performed by means of own badge through a NFC reader. The system performs authentication and then couples the Operator to the most suitable and available **SmartWatch**.

ASSOCIATION

The association to the work station is performed by getting the **SmartWatch** close to the NFC reader placed on the work place site. This association triggers the notifications and acknowledges of the operations done onto that work station.

DECOUPLING

Throughout the job, the **SmartWatch** monitors its distance within the perimeter of the area via BLE technology. Whether the Operator gets off the work station area, automatically the SmartWatch discards the association.

HEALTH & SAFETY CHECKLIST MANAGEMENT, NOTIFICATION AND ACKNOWLEDGE

HEALTH & SAFETY CHECKLIST MANAGEMENT

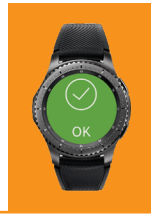
SAFETY CHECKLIST

Once the Operator picks up the **SmartWatch** and approaches the workstation, the system allows the management of the Safety Checklist on the smartwatch. This function helps Operator to work safely by reminding them to wear the personal protective equipment.



COMPLETION

Enabling further operations



FAILED CHECK

Triggering the Team Leader call



NOTIFICATION AND ACKNOWLEDGE

NOTIFICATION

The **SmartWatch** enables Operator to know the list of due actions along the line. When an activity has been completed, the **SmartWatch** will keep displaying the information on the screen



TEAM LEADER CALL

The Team Leader call option is available and achievable by pressing the button on the lateral side of the **SmartWatch**. It requires team leader intervention on the line to fix the issue.



STOP LINE

Warning or blocking issues may stop the line. Under Operator responsibility, it is possible to stop the line by pressing the lateral side button of the **SmartWatch**.



ENGINEERING

Combines a wide experience in the development of SW applications for Manufacturing Operations Management with the development of control systems, based on plant/machinery level devices and data (PLC, I/O) and with a wide experience in big data systems. Numerous analytical models are continuously designed and constructed on different types of architectures to meet different needs of analysis.

COMAU

Member of the FCA Group, Comau is a worldwide leader in delivering advanced industrial automation solutions that integrate products, technologies and services to help companies of all sizes increase plant efficiency while lowering operating costs and optimizing returns.



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