

# MYNXG SMART

Connect people securely to your operation technology and drive productivity by providing tools and access to sites, data, processes, and things.

The integration of people is the key for success of any process implementation. Today, everybody uses smartphones and tablets. Employees expect the same user experience at work as in private life. Operational technology (OT) systems require industrial grade security. MYNXG's Smart Mobile Application Real Time (SMART) combines industrial level of security with attractive tools for process interaction. The introduction of SMART increased digital process execution by up to 60%.

## Driving Secure User Interaction

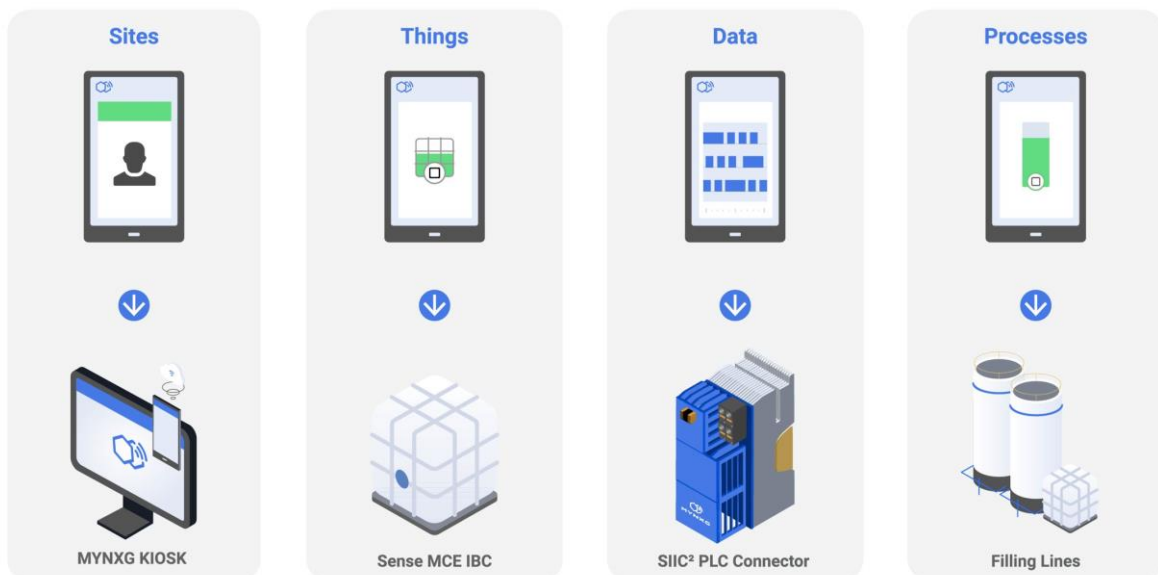
SMART applications are creating productivity and are empowering users to effectively interact with the MYNXG automation solutions.

SMART is secured by Google Android™ class KeyStore, Android™ SafetyNet Attestation, signing and whitelisting software at the MYNXG Public Key Infrastructure (PKI) and the MYNXG SMART SW Integrity Checks executed at access readers, which are logged with MYNXG Blockchain transactions.

SMART is part of the MYNXG ISA/IEC 62443 certified secure OT platform and is distributed by OT asset owner invitation.

## Customer Benefits

- Utilize smartphones and tablets to create secure process interactions
- Manage access rights to sites, things, data, and processes via Global Master Data (GMD)
- Drive automated process interaction and reduce paper-based data exchange
- ISA/IEC 62443 industrial grade security including system logs





## Functions

### Access Automation



- Easy & secure authentication and authorization
- Creation of individual Global Master Data (GMD)
- Setting of access right according to GMD profile
- Access to buildings via RFID NFC readers
- Access to data and information
- Access to processes, safety, and security checks
- Access to things, machines, equipment

### MYNXG Product Installation



- All MYNXG products contain unique QR codes
- Scan the QR code and receive installation guides
- Install the products, working right after power on

### Intermediate Bulk Container (IBC) Fleet Management



- Scan the QR code and receive information
- Customers receive product and order information
- Suppliers manage their Kanban processes
- Charging, commissioning, and monitoring of IBCs

### Process Automation (Industrial Tank)



- Scan QR code and receive information
- Operators receive info about the products stored
- Technicians are provided with data sheets, service instructions and can interact accordingly

### PLC Automation



- Scan QR code and receive information
- Operators find order and process information
- Technicians get PLC parameters, time series, state information and can interact with the OT system

### Warehouse Automation including consignment stores



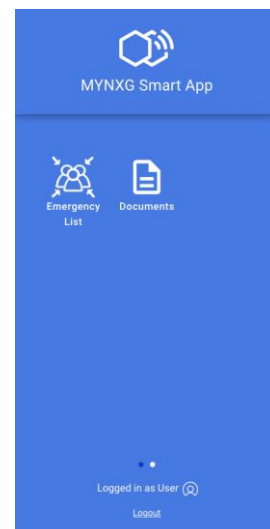
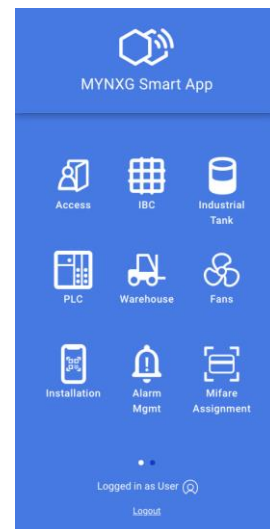
- GS1 compliant product labels with QR code
- Goods Receipt, scan labels and register products
- Warehouse Storage, store product at bin
- Commissioning, pick product and pack pallets
- Goods Issued, create shipping information
- Customers, register consumed products

### Interactive Alarm Management and Transactions



- Syslog compliant alarms and warnings
- Receive alarms and related notifications
- Solve issues at OT systems by remote control
- Document interactions via blockchain transaction

## SMART Home Screen





## Security

SMART is working with regular smartphones which are providing hardware-backed security. Today's smartphones have the capability to sign data, to create an individual private key and a public certificate with 2048-bit length. Key handling is supported by hardware-based security.

Google Android™ class KeyStore implementation utilizes manufacturer specific hardware and supports ARM Trust Zone® and trusted platform modules to create keys with 2048-bit length.

International Mobile Equipment Identifier (IMEI) is nonvolatile stored inside the smartphone / tablet. It is used to identify the type of smartphone / tablet and is part of the SMART categorization of devices with regards to hazardous locations.

SMART uses the Enterprise Mobility Management (EMM) rights for the administration of work profiles. We utilize the NFC reader functionality inside the smartphone to enable a fully transparent communication with NFC readers installed with the MYNXG Access Automation on a regular base.

Additionally, SMART utilizes and manages the mobile cellular communication (5G, LTE), the WIFI capabilities, camera functions, GPS, and the Bluetooth (BT) functionality.

SMART security is based on the usage of two independent security mechanisms. The first one is implemented by the mobile operating system, e.g., Google Android™ class KeyStore and the Android™ SafetyNet Attestation. In addition, MYNXG signs SMART within the MYNXG cloud and stores the signature at the MYNXG Public Key Infrastructure (PKI). This method is used to whitelist the SMART application software.

We are validating and authenticating the application. The mobile operating system executes a signed hash operation over several memory areas. This procedure is known as "core root of trust for measurement". The validation of SMART with this method ensures that SMART is operating on a secure phone, which has not been manipulated by the user itself or through its usage.

Every time, SMART is presented at the NFC reader of a MYNXG Access Automation system, MYNXG validates the SMART Integrity. MYNXG compares the actual signature of SMART versus the stored one inside the PKI at the MYNXG cloud. This check is documented by a MYNXG Blockchain transaction.

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## Security Features

### Applied Methods

- MYNXG signing and whitelisting of Software
- MYNXG Blockchain transactions
- Generation of user credentials
- Android™ class KeyStore
- Android™ SafetyNet Attestation

### Functions

- Security check at every start of SMART
- Signing of every SMART software download
- Individual key / credential pairs per SMART
- Validation of SMART Integrity at MYNXG Access readers
- Blockchain transaction to document integrity checks
- Blockchain transactions on behalf of SMART for approvals / transactions
- Safety zone support for hazardous areas



iSafe 530 ATEX®  
smartphone



**MYNXG**

## How SMART works

SMART requires a MYNXG user account, which is automatically installed at any Android™ 8 Smartphone by:

- Enabling the work profile at the smartphone
- Installing the QR code reader at the work profile
- Scanning the MYNXG QR code invitation
- SMART is automatically distributed and installed,
- Users have just to enter their e-mail and user password.

## Product Information

SMART is complementing the MYNXG Automation solutions and is distributed by OT asset owner invitation

- SMART is provided at zero cost for MYNXG User “Viewer”
- SMART may cause blockchain transaction fees
- SMART can be configured per user / per solution

## Solution Packages

**Access Automation**, management and automation solutions for personnel including access to sites, data, process, and buildings. Access is managed via transparent OSDP NFC readers and kiosks.

**Process Management**, HART FieldCOMM® based automation solutions for the chemical-, process-, energy- and food & beverage industries.

**PLC Automation**, PROFINET, PROFIBUS, EthernetIP, Modbus TCP as well as OPC UA client-based solutions for the automation of single machines and / or production lines in all industries.

**Warehouse Automation**, supporting Goods Receipt, Warehouse Storage, Commissioning, Goods Issued and Consignment Stores at customers with GS1 compliant RFID UHF and QR code labels providing half- to fully automated warehouses.

**Intermediate Bulk Container (IBC) Fleet Mgmt.**, Kanban management of chemical- and food & beverage containers.

## About MYNXG

MYNXG is a secure industrial IoT architecture to protect assets, infrastructure, and their data to the highest cybersecurity standards. MYNXG is the technology of choice to securely connect operational devices in highly regulated industries and the people interacting with them. The platform supports all industrial interfaces at the device level, provides cloud platform APIs and provides digital workflow support for BPMN 2.0.

The MYNXG platform sets the de-facto security standard for operational technology and is fully ISA/IEC 62443 certified.

## Solution Features

- ISA/IEC 62443 compliant application technology.
- Works with any Android™ 8 or later smartphone / tablet

## Key Features

- SMART as the SwissKnife® for process automation
- Modular configurable for individual requirements and customers



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