

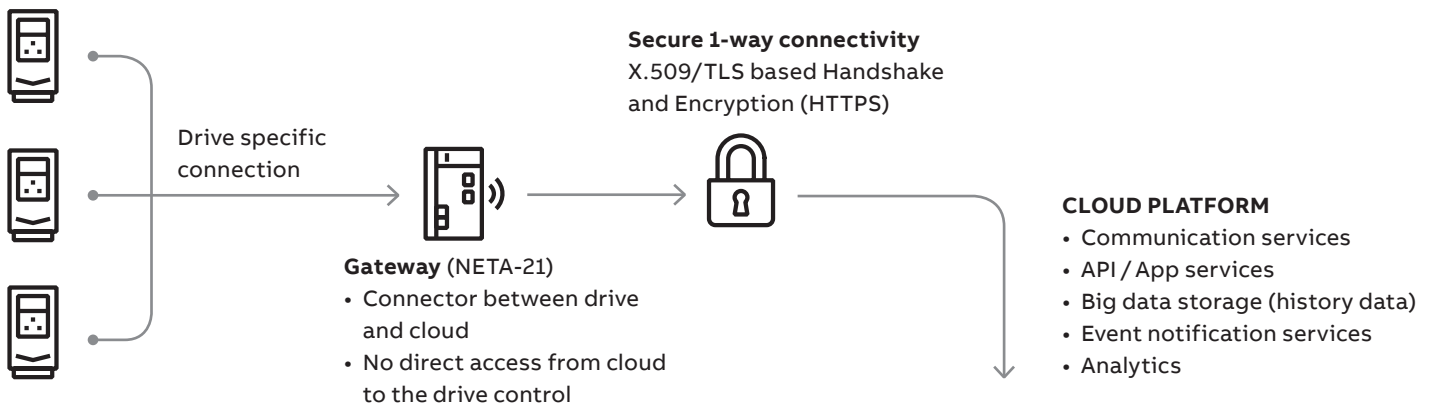
# ABB Ability™ digital services for drives

## Cloud cybersecurity



Cybersecurity concerns are common when data from industrial equipment is communicated over networks. In the event of centralized data being uploaded to the cloud, the process is described below. ABB follows state-of-the-art processes to ensure security of data and equipment. However, customers also need to be security-aware if their systems are part of the monitoring data transfer.

### Customer's site/ Installed base



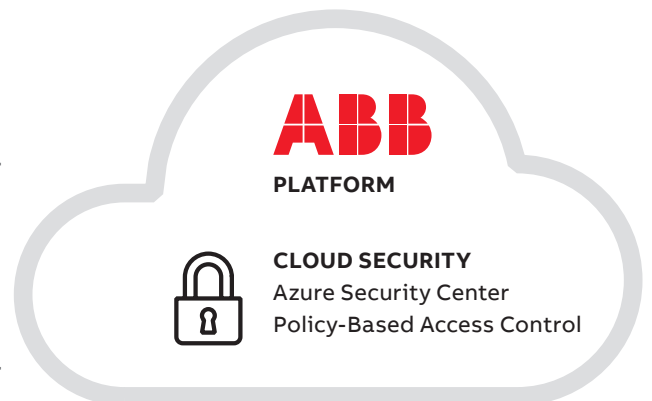
### ABB EXPERT

Access to Condition Monitoring portal via internet, access to assistance page for customer assistance.



### CUSTOMER

Access to Condition Monitoring portal via Internet.



---

## How to deal with cybersecurity



---

### ABB's security processes

- It is possible to view and subscribe to ABB cybersecurity alerts and notifications at: <https://new.abb.com/about/technology/cyber-security/alerts-and-notifications>
- Reports can be submitted directly to ABB's cybersecurity Response Team, that acts as the official ABB CERT, using the email address: [cybersecurity@ch.abb.com](mailto:cybersecurity@ch.abb.com)
- Patch management and vulnerability monitoring is done continuously for the software versions
- Secure Development Lifecycle (SDL) practices are followed
- All software is checked by several anti-virus programs before release
- A key feature of ABB's offering is the independent Device Security Assurance Center (DSAC), where all ABB products undergo state-of-the-art security testing before they are released to the market. This process measures robustness and security integrity, and includes port scanning, network flooding, vulnerability scanning and protocol fuzzing.
- Cybersecurity training is mandatory for all users involved in the development and operation of services
- ABB requires its suppliers to follow a set of rules, and internally ABB follows even stricter ones. For more information see: <https://new.abb.com/about/supplying/cyber-security>

---

### Management of customer data

- ABB Ability™ Data Manifesto defines how customer data is used
- Customers' data remains theirs
- Customers know what we do with their data
- We will not disclose customers' data without their consent
- Ensuring data/IP is not shared with or used for the benefit of competitors



#### Drive specific connection

- Various ABB drives can be connected with:
  - Optical fiber
  - Panel bus (by replacing panel)
  - Ethernet through FENA-x1
- NETA-21 gateway can be used as local web page for drive access
- Default access level does not allow drive configuration but can be enabled locally
- Secure password must be set for NETA-21 web interface to prevent malicious access within the local network
- For service purposes, the NETA-21 does not require any incoming or VPN connection
- On-site security is the customer's responsibility. Local Ethernet access should be limited, and firewalls configured to allow only necessary traffic.
- Cellular modem for Internet can help isolate drive monitoring connection from local control network



#### Secure one-way connection

- Sending data to cloud is pure HTTPS push, so the data is only sent outbound
- Additional WebSocket channel provides limited command set e.g. to request certain log files, reboot gateway (not drive) and to deploy latest software updates
- Updates are fetched only from ABB Library download center and checked for valid signature
- Internal user accounts of the Gateway prevent writing to drive as default and cloud user
- Latest encryption methods such as TLSv1.2 with X.509 certificates are used to ensure data confidentiality over transport
- Certificate validation ensures that data is sent only to legitimate ABB Ability™ Cloud
- Gateway should be placed behind firewall. Outbound port TCP:443 from NETA-21 to cloud is enough. Inbound ports are not needed.
- If customer network cannot be used, cellular router such as eWON Cosy 131 can be used to provide internet. Cellular router provides firewalling and optional VPN layer (VPN is not a standard part of service offering, and it should only be activated when there is a strict need.)
- Bulk data option (data transfer from SD memory card to cloud portal) is an alternative to avoid direct internet connection



#### Gateway device

- Gateway device NETA-21 handles protocol conversion, data aggregation and multiple layers of security
- NETA-21 runs only signed original ABB software images. User cannot install any additional software on the device.
- Gateway software can be updated both locally, as well as centrally using the cloud
- NETA-21 has internal firewall which blocks unneeded connection types
- All actions are logged into audit trail in internal memory and SD card. Events are also sent to the cloud.
- The local web interface of the NETA-21 can be disabled entirely (once connected to the cloud) if required
- Data on SD memory card has signature to prevent unwanted modifications
- Physical security (e.g. locked cabinet) is needed to protect the removal of data from SD card



#### Portal security

- Portals use secure connections (HTTPS) and modern reactive interfaces
- MyABB provides single sign-on for all ABB services
- User accounts are handled by central rules, in central Active Directory
- Two factor authentication is available
- All user accounts are personal (no group or company accounts) and expire when not used
- Customer shall inform ABB contact person that account needs to be removed
- To remove an account, ABB contact person enters ticket to ABB internal system (MyIS), which will trigger process (and after approval round) account will be deleted



#### Cloud security

- All stored data is encrypted in cloud
- Best practices such as Azure Key Vault are used for secure storage
- Identity and access management, and multi-factor authentication are used in cloud
- Cloud assets are protected and monitored against threats
- Cloud services keep audit trail of all actions

---

For more information, please contact  
your local ABB representative or visit

**[abb.com/drives](http://abb.com/drives)**  
**[abb.com/drivespartners](http://abb.com/drivespartners)**  
**[abb.com/motors&generators](http://abb.com/motors&generators)**

---

For other product documents

**[www.abb.com/drives/documents](http://www.abb.com/drives/documents)**