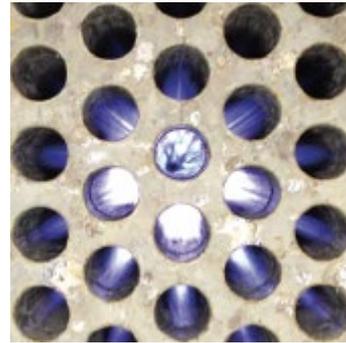
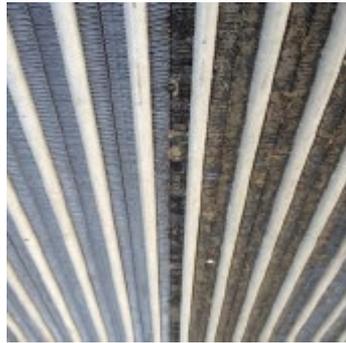


JNW CleaningSolutions®

Experience pays



ACC User Group

Fabian Noack, Sales Manger

Colorado Springs, October 2018



JNW – Company overview

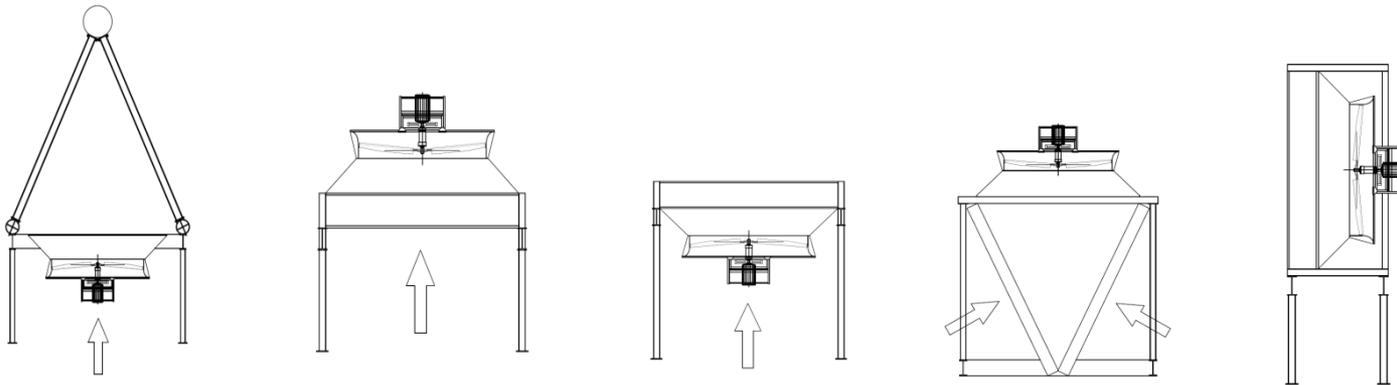
- Founded : 1932
- Shareholder : Kuwaiti German Holding Company K.S.C., Kuwait
- Headquarter : Bochum, Germany





JNW – Cleaning Equipment

- JNW is an engineering & machinery building company
- Producing high pressure water cleaning equipment
- Tailor made and adapted to the special design of all kinds of air cooled heat exchangers



JNW – Online Cleaning Equipment

- Our Scope of Supply includes:
 - Simple Cleaning Chassis for manual cleaning only
 - Semi Automatic Cleaning Systems
 - Full Automatic Cleaning Systems integrated into the central control room of the plant
 - Regular working pressure: 50 / 80 bar*
 - Water consumption 100 - 270 l/min*



*depending on the technical requirements



JNW – Online Cleaning Service Features

- JNW also offers Cleaning Service
 - By use of JNW especially developed mobile cleaning equipment portable in a small van or pickup with trailer
 - Operated by a team of 2 operators
 - Providing the same cleaning quality as a permanent installation



JNW – Main Industries

- Refinery



- Steel Plant



- Power Plants



- Chemical Plant



- WTE Plant



- Geothermal



➤ ***JNW – The Universal Partner for Different Industries***



JNW –References



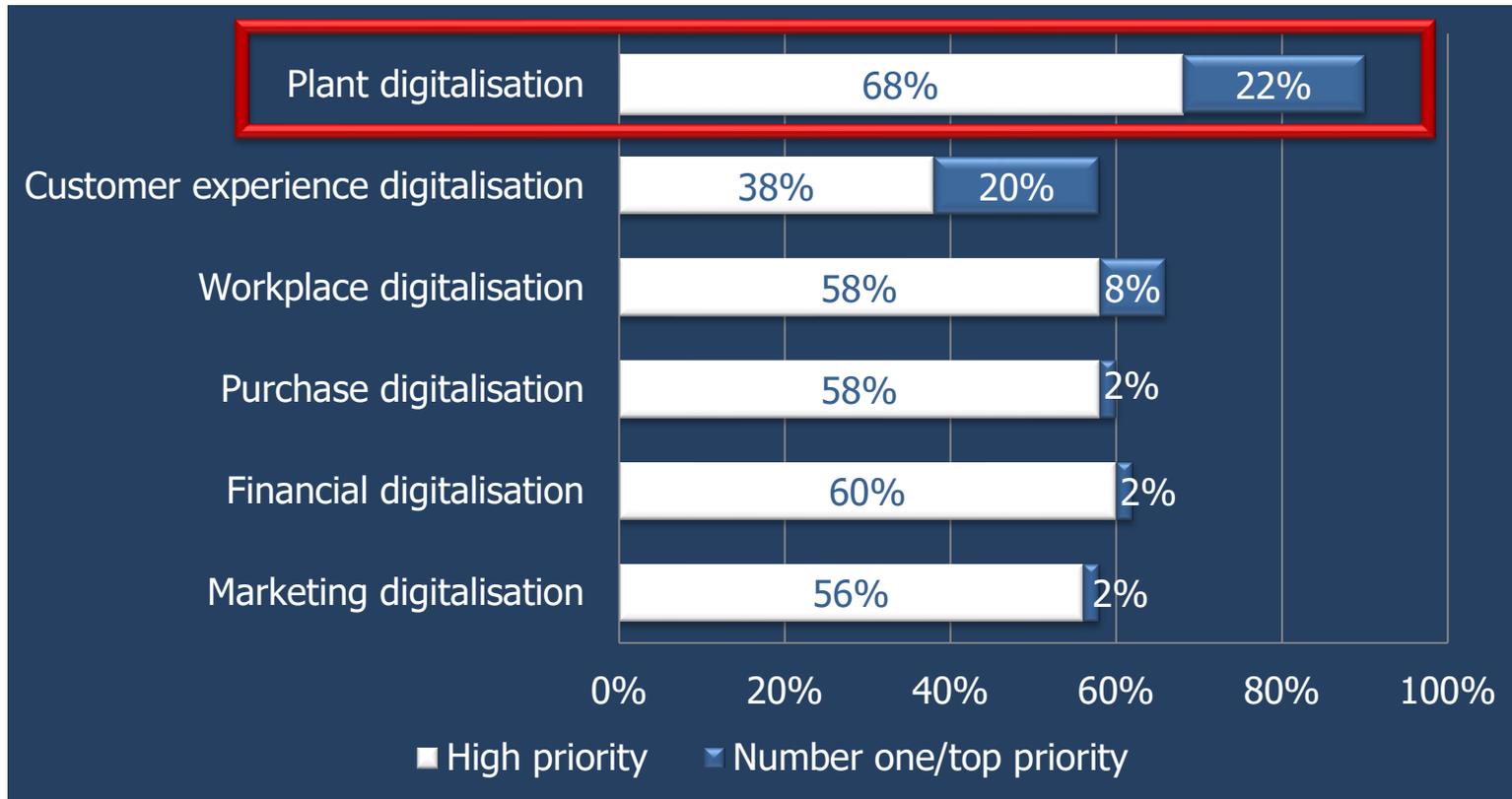
What means Digitalization for our field of industry?

If we believe in a survey with 400 senior executives at organizations with at least 500 employees, in the Power Generation, Pharmaceuticals, Chemicals & Petrochemicals, Mining & Minerals and Pulp & Paper sectors in 21 countries around the world than Digitalization means to us:

- 88% of respondents say adopting Digitalization will increase their revenues
- 46% believe plant Digitalization is a rapidly growing focus of attention across the industry and 28% say it is here and happening now
- 40% feel increasing competition is influencing plant Digitalization
- on average, respondents believe Digitalization can boost production capacity by 29% and cut operating costs by 27%
- 44% are currently investing in intelligent information management and a further 50% are planning to do so in the future



Where in your organization Digitalization will have the highest priority?



90% say plant Digitalization is a top priority with 22% rating it as their number one/top priority



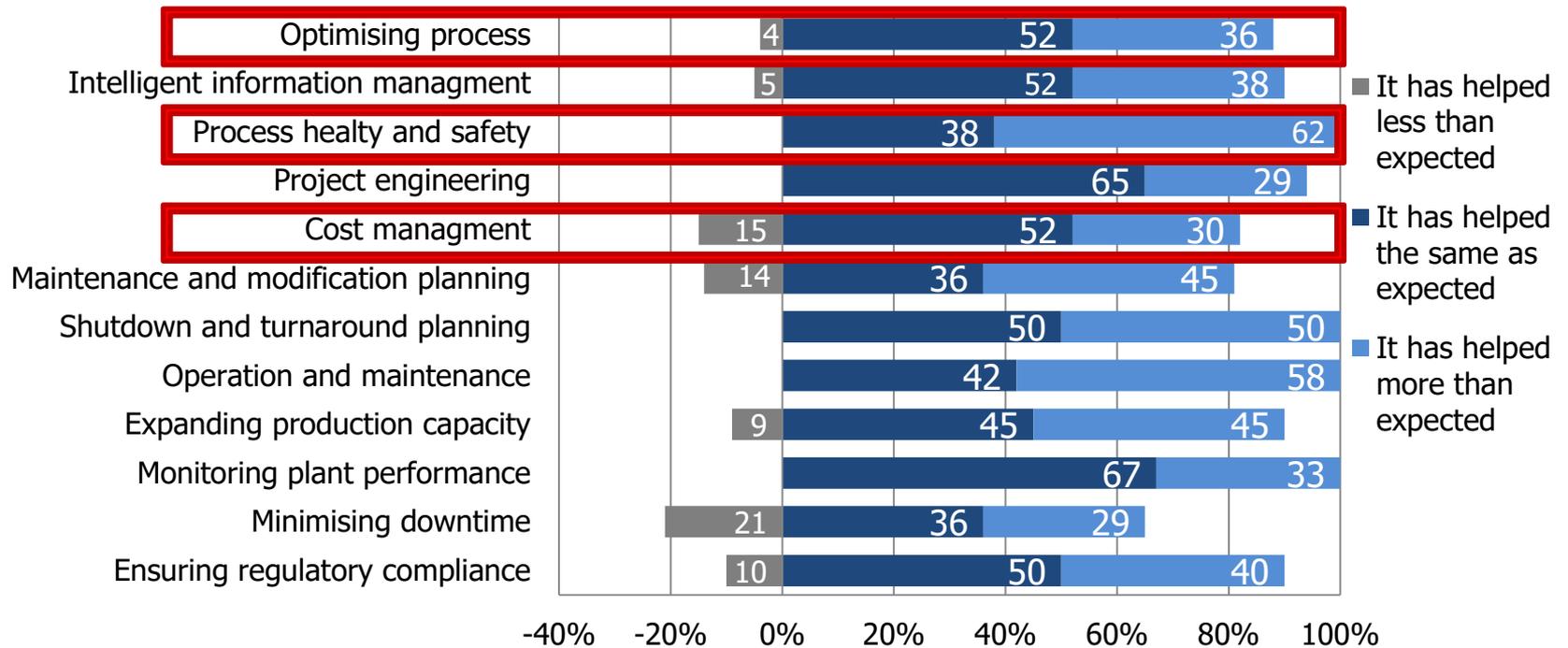
What are your organization main areas of focus when it comes to plant Digitalization?



More than half cite cost management and exactly half report that optimizing processes are a main focus and nearly half point to safety



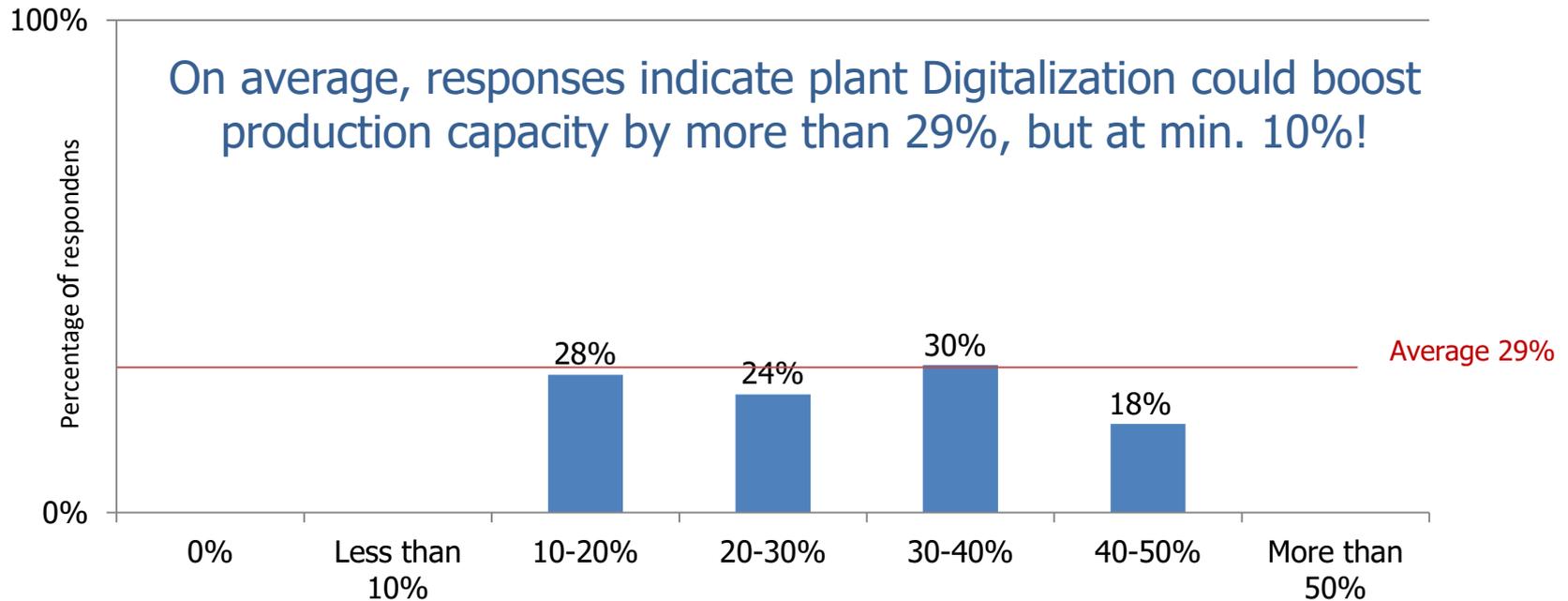
How does your experience of plant Digitalization compare to your original expectations in terms of the following?



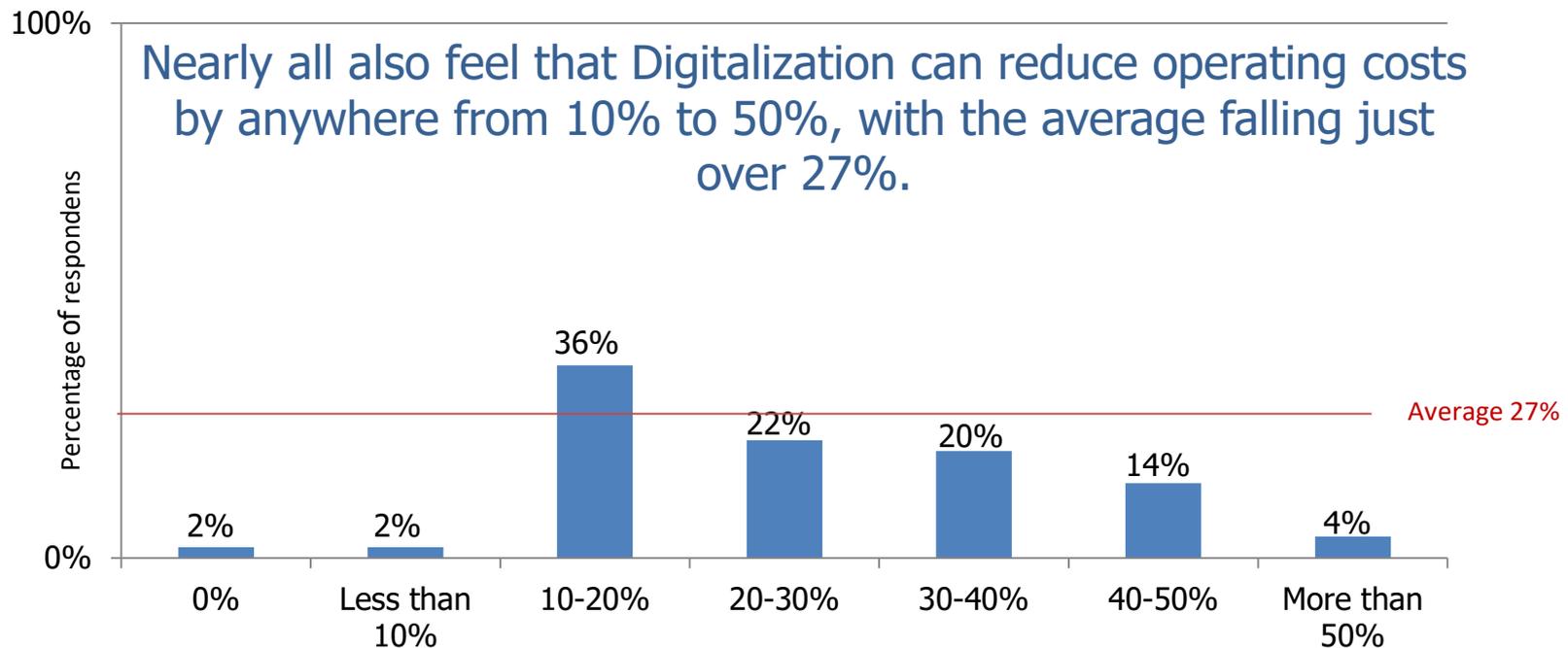
Most find that their results meet or exceed their expectations.



By how much do you feel that plant Digitalization can boost the production capacity of your plant/laboratory/production facility?



By how much do you feel that plant Digitalization can reduce the operating costs of your plant/laboratory/production facility?



JNW – Goes Digital

If Digitalization in accordance to this survey means for us:

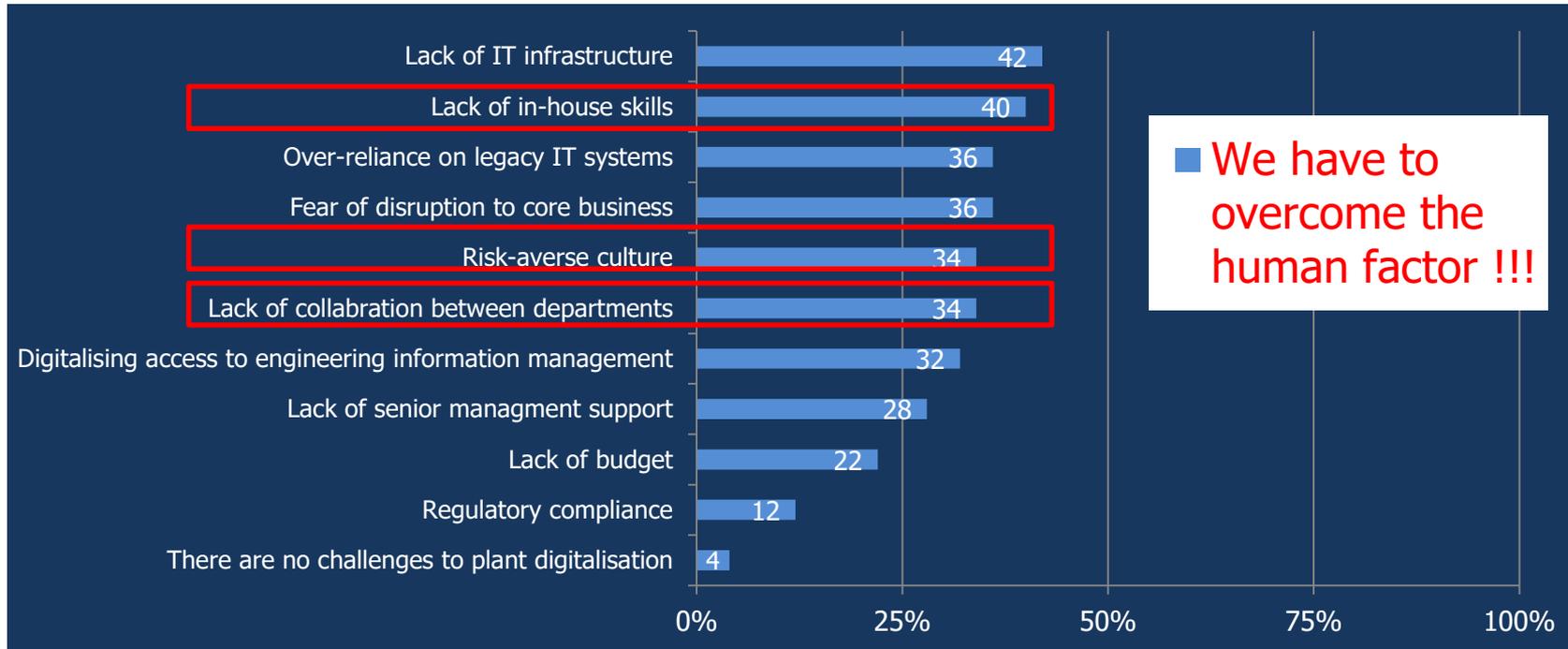
- a top priority
- a major cost reduction
- optimized processes
- an significant increase of safety
- an enormous boost for production



Why we are still so reluctant and not working hard on this topic or even haven't start to work on it?



What are the main challenges you face when it comes to plant digitalization?



- 40% say they don't possess the in-house skills
- 34% believe they would have to overcome a risk-averse culture
- 34% worry about lack of interdepartmental collaboration



JNW – Goes Digital

In order to achieve your Digitalization goals of:

- Increasing revenues
- Defending competition and market position
- Boosting production capacity and cutting operating costs

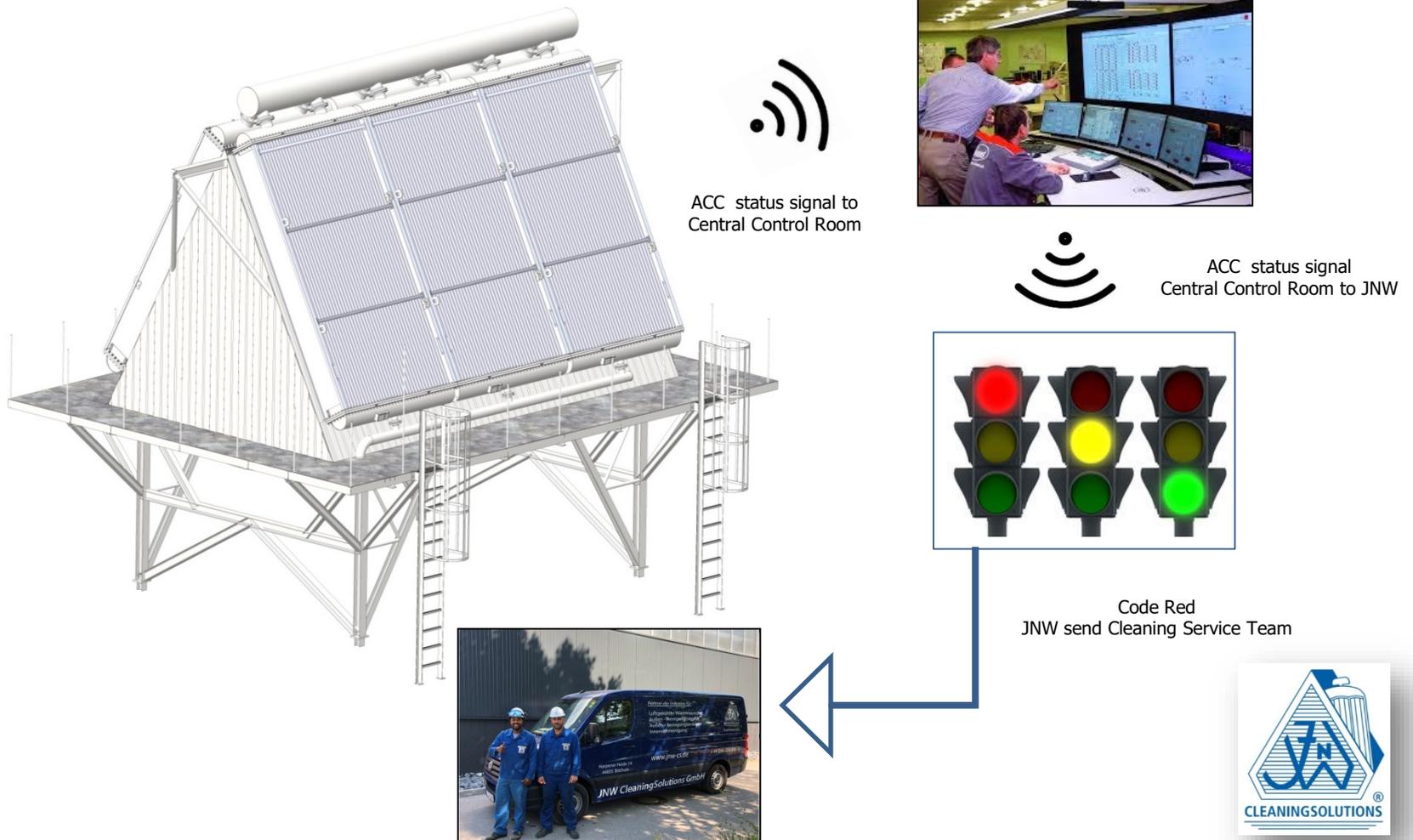
Humans are communicative beings, but our machines and plants are communicative too - and have been already for a long time.

For example a modern gas-fired power plant is equipped with more than 10,000 sensors. They measure and communicate movement, vibration, temperature, humidity, and chemical changes in the air and water.

Let's get connected.



1. Setup of an automatic information exchange between cooler and service partner about the need for cleaning



JNW – Goes Digital

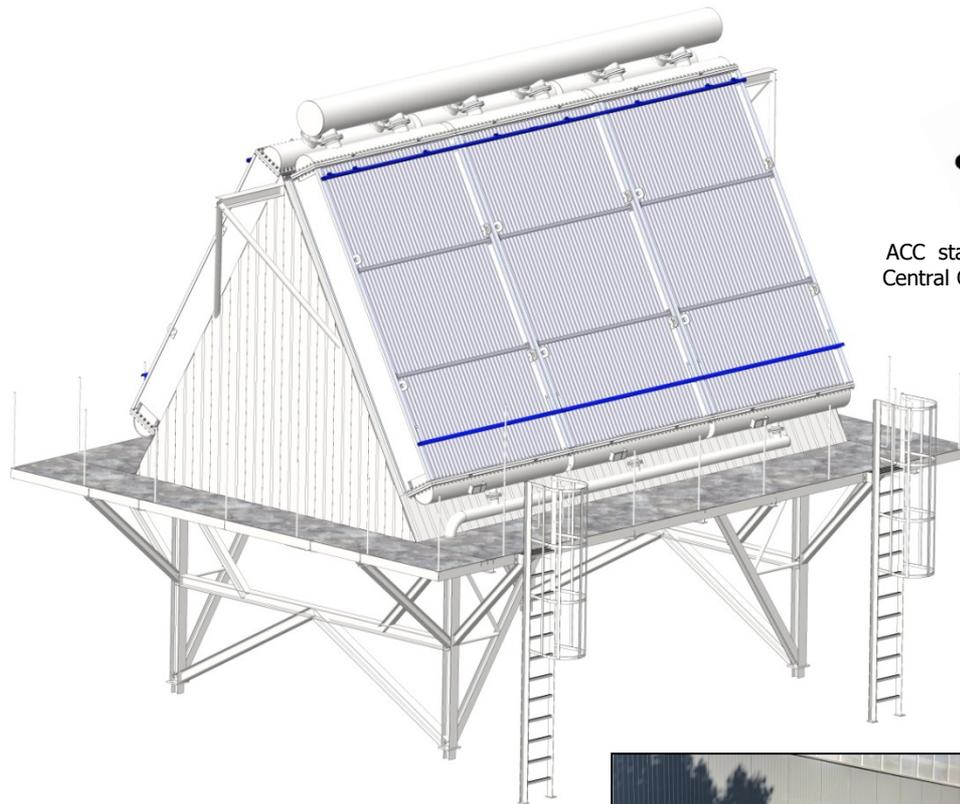
1. Advantages - Setup of an automatic information exchange:

- Due to the strong seasonal fluctuations in the cleaning business, a major problem of the service partner is the planning of resources.
- Networking with the service partner guarantees the cooler operator cleaning of his cooler at the optimum time. Down times due to a partial shutdown of the cooler will be reduced, cooler efficiency and system output increases.
- An exchange of confidential data is not required. A simple traffic light system (green, yellow, red) informs the service partner about the need for cleaning and can therefore plan the cleaning operation and reserve capacities in good time in coordination with the operator.
- Cost advantages that arise for the service partner, due to the better utilization of available capacities, travel times and costs which can be optimized will lead to attractive prices for the operator.



JNW – Service goes Digital

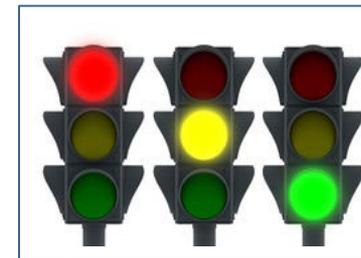
2. A further reduction of down times can be achieved by preinstalled rails



ACC status signal to
Central Control Room



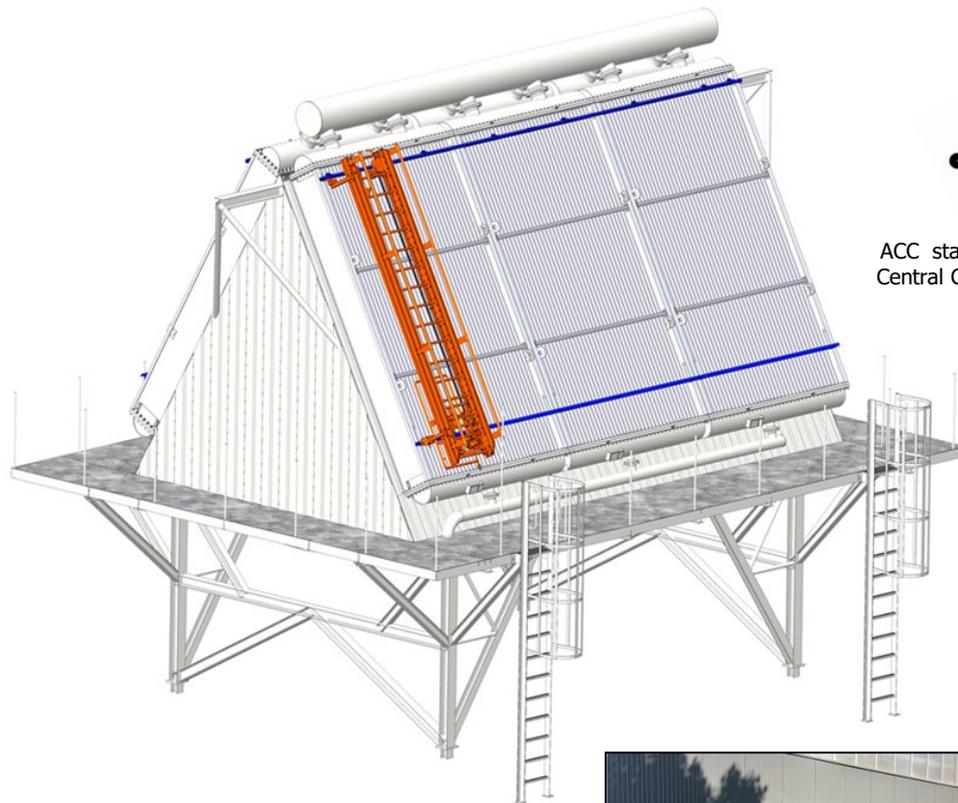
ACC status signal
Central Control Room to JNW



Code Red
JNW send Cleaning Service Team



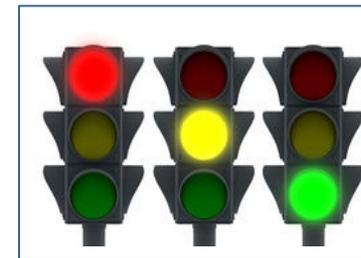
3. Even more down time reductions due to preinstalled rails + cleaning chassis



ACC status signal to
Central Control Room



ACC status signal
Central Control Room to JNW

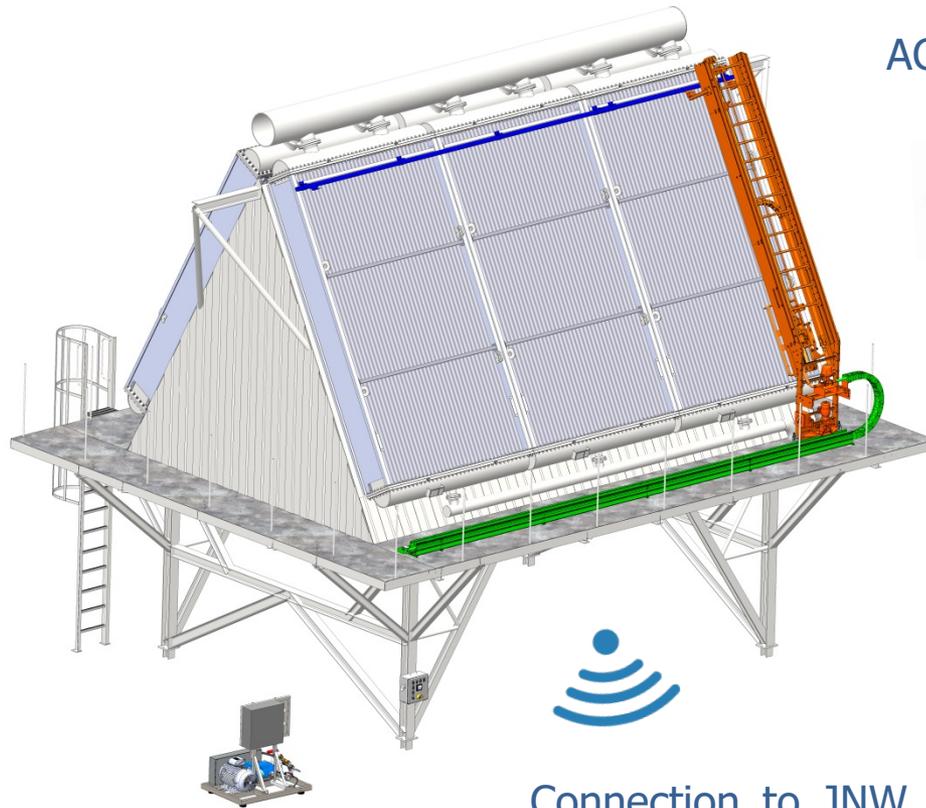


Code Red
JNW send Cleaning Service Team



JNW – Service goes Digital

4. Total independence by use of fully automatic cleaning system communicating with central control room or directly with the cooler to start cleaning program / sequence



ACC status signal to Central Control Room



ACC Cleaning Equipment control from Central Control Room



Connection to JNW for remote monitoring, maintenance and troubleshooting



2. Advantages - Setup of a fully automatic integrated cleaning system:

- **Improvement of processes** and significant **cost reduction** due to complete independence from external service partner or internal service/maintenance department is needed.
- On line cleaning possible at any time started and controlled from central control room. Depending on level of information supplied from the cooler also a cleaning of single sections only is possible.
- Major **increase of safety** because no cleaning staff inside the cooler is necessary.
- Significant **boost of production** due to increase of cooling efficiency and system output.

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Let's get connected.



Together we achieve more

MAXIMUM SYNERGY

for a BETTER PERFORMANCE

