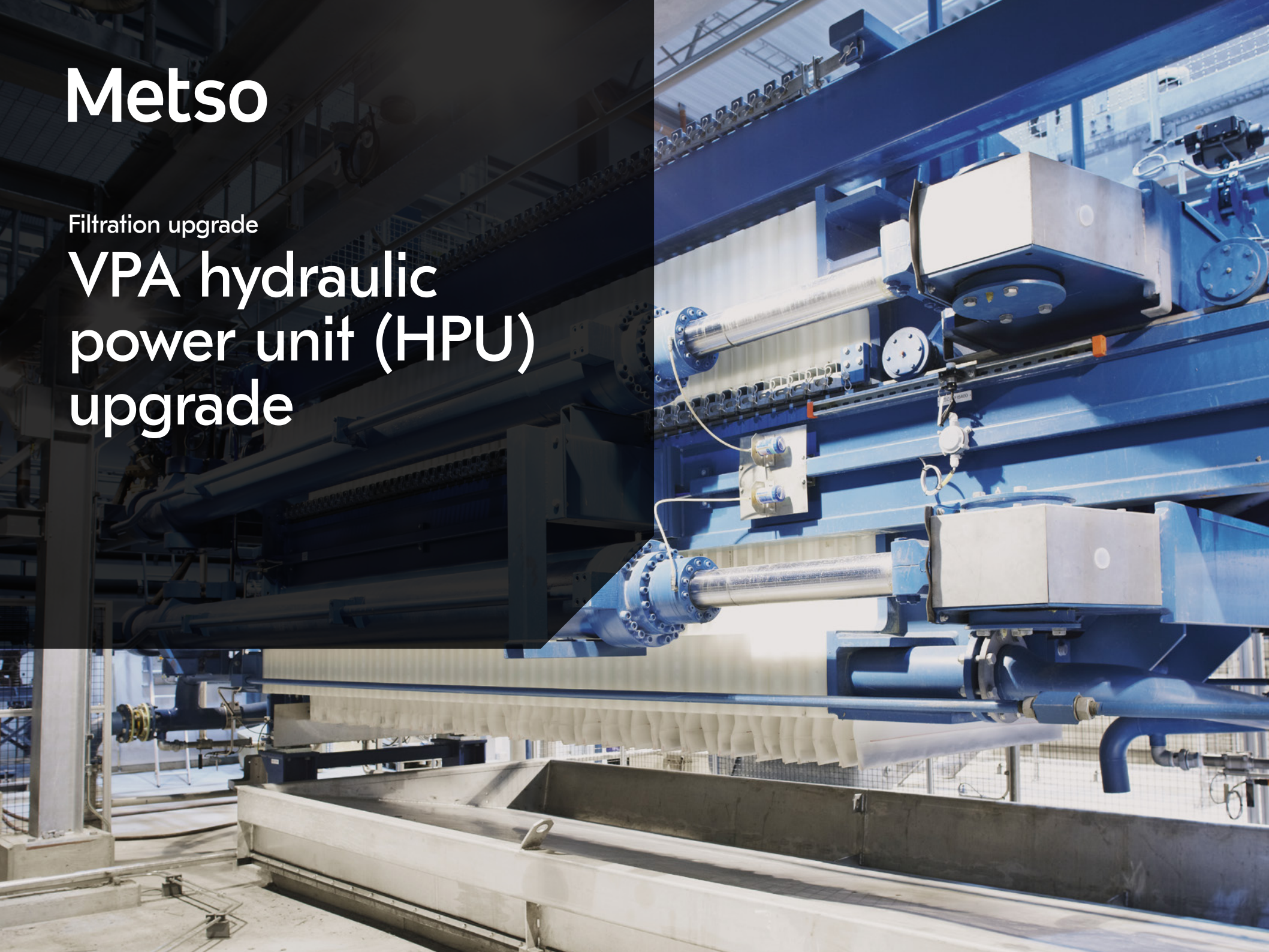


# Metso

Filtration upgrade

## VPA hydraulic power unit (HPU) upgrade





# Revolutionize your filtration process with our advanced HPU

## The role of the power pack in the VPA filter

Pulling-type hydraulic cylinders play a pivotal role in the opening and closing processes, exerting the essential closing force during filtration. This dynamic system is powered by a hydraulic unit that delivers oil to the cylinders.

Throughout the filtration cycle, the hydraulic unit efficiently allocates several seconds to perform critical functions. This includes:

- The closing sequence
- High-pressure closure
- Evacuation of high pressure
- Seamless opening of the machine for discharge

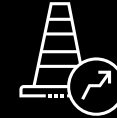
## Introducing the new generation HPU power pack

The new generation hydraulic power units are designed to replace older units with little to no alterations to the foundation design or loads while maintaining the same footprint as its predecessors.

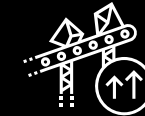
Distinguished by its ability to be fully encased in steel covers and doors, the new design not only reduces noise levels significantly but also enhances fire protection. Additionally, the top cover allows for the convenient installation of a sprinkler system.

Furthermore, our innovative hydraulic design prioritizes safety, eliminating the risk of hydraulic oil flushing, ensuring a secure operational environment for operators.

## Benefits



Improved safety



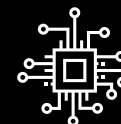
Increased production



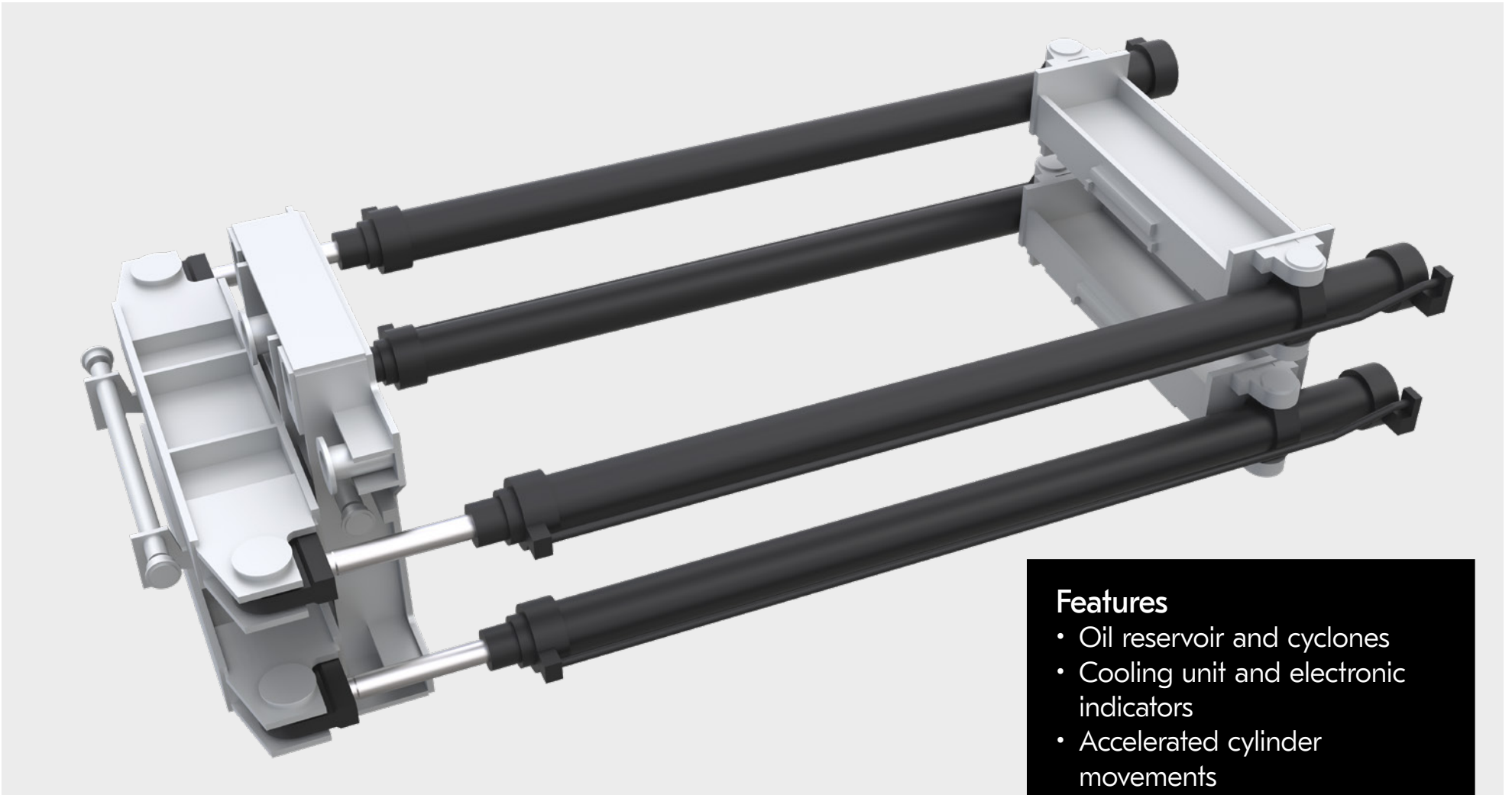
Decreased downtime



Effective maintenance



Enhanced automation



#### Oil reservoir and cyclones

The latest unit features a compact oil reservoir with a reduced volume, incorporating patented cyclones to effectively minimize free air from the returning oil within the system.

These innovative cyclones play a crucial role in diminishing cavitation, enhancing efficiency, and mitigating issues such as oxidation and the 'diesel effect'.

Additionally, the bottom tray is designed to contain any leaked oil from the tank, ensuring a secure containment solution in case of potential leaks.

#### Cooling and indicators

The new unit is equipped with a dedicated filter and cooling unit to facilitate uninterrupted filtration.

Electronic indicators have been integrated into all filters.

### Features

- Oil reservoir and cyclones
- Cooling unit and electronic indicators
- Accelerated cylinder movements
- Higher capacity manifolds, hoses and valves
- Dual and larger pump system
- Large sliding doors for effortless serviceability
- Additional sensors and enhanced automation intelligence

# Increase production by up to

# 20%

#### **Cylinders, manifolds and valves**

Experience up to a 20% increase in production with the new unit, due to accelerated cylinder movements, quicker compression, and faster decompression, all contributing to reduced total cycle time.

The redesigned manifolds featuring higher capacity and NG40 logic valves for increased flow, contribute to this efficiency.

The incorporation of bigger logic valves (NG25) facilitates faster decompression, while the option for double LP pump units ensures swifter transportation or standby functionality to prevent downtime in case of pump failure.

#### **Pump system**

Incorporate double LP pump\* units for faster transportation and prevent downtime caused by pump failures.

In the event of a double pump\* system, both pumps engage during filter closure, significantly reducing the time required for transportation from full open to full low-pressure closure. During the cake discharge phase, only one pump is utilized, streamlining operations.

A larger HP pump has been integrated to optimize compression, ensuring a seamless and efficient process.

#### **Power pack**

Experience swift and effortless serviceability with our innovative design, featuring a new sliding function that provides quick access to shaft couplings without the need to lift the electric motor.

Large doors have been incorporated to facilitate easy access when replacing filters and other essential components.

\*Double pump system is available for VPA20 only

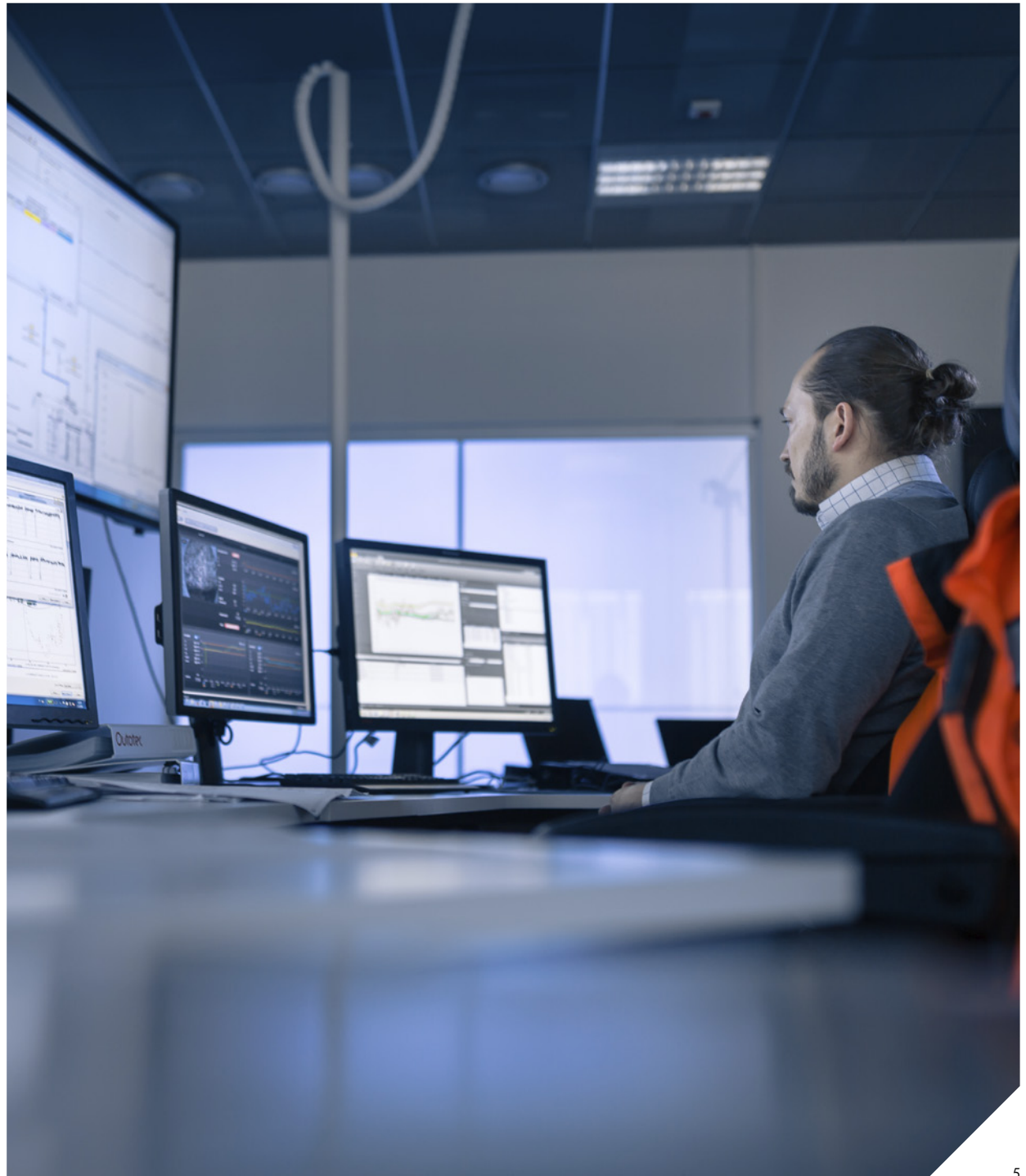
# Unlock potential with enhanced intelligence

## Automation

Unlock the full potential of the new Hydraulic Power Unit (HPU) by seamlessly integrating it with your machine through a necessary control system upgrade.

The upgraded control system features enhanced intelligence, allowing you to extract trends, generate reports, and more.

With the addition of new sensors, the control system now oversees the control of valves on the hydraulic unit, eliminating manual control as seen in the old system. This not only reduces the risk of misalignment but also introduces a higher level of automation to streamline your processes.



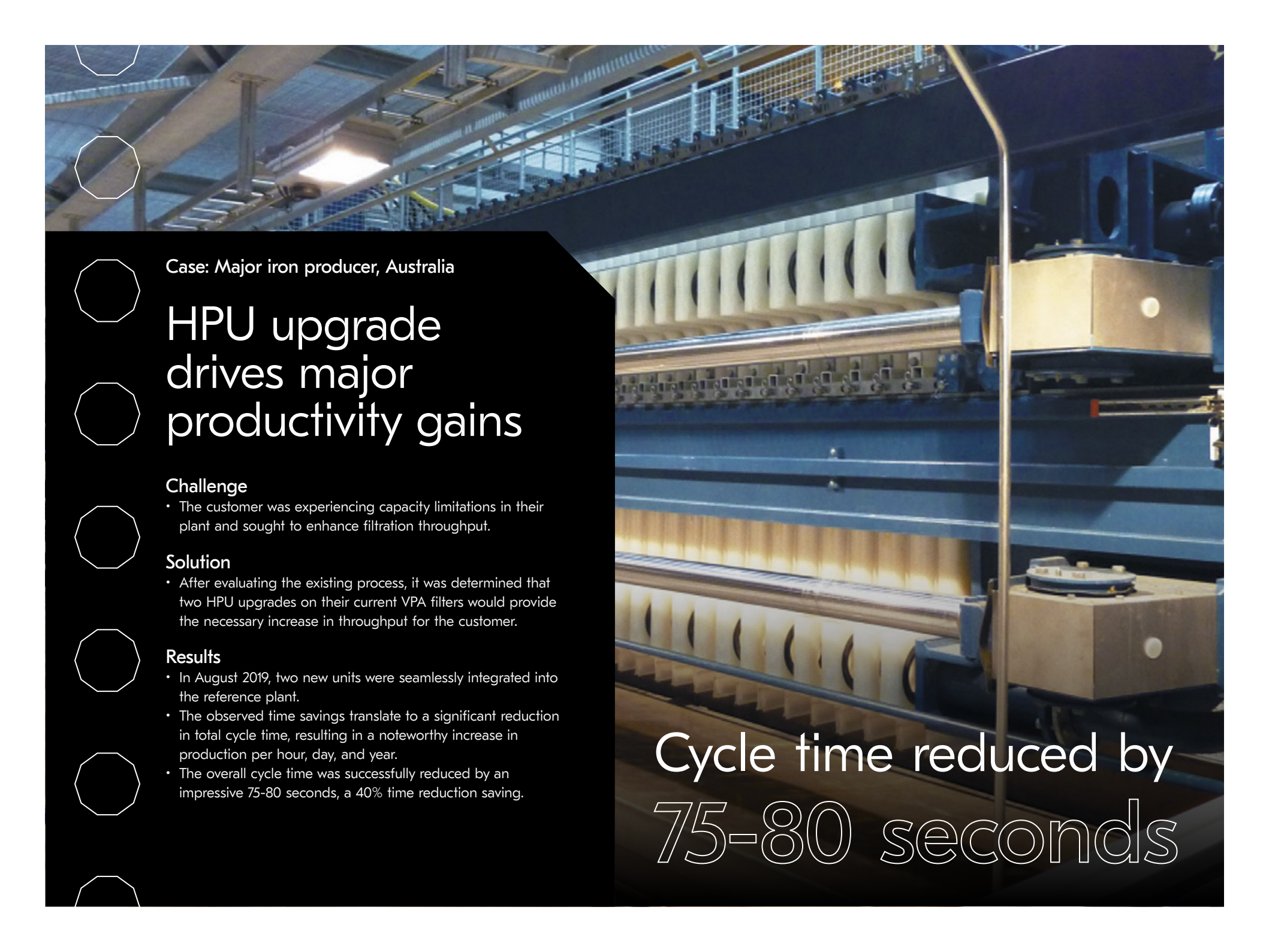
VPA filter upgrade

# Summary of features

Discover what the new HPU has to offer

Feature	Original HPU	NG HPU	NG HF HPU
Standard size (same footprint)	•	•	•
Dedicated filter and cooling unit	•	•	•
Control system to automatically control valves	•	•	•
Minimized risk of cylinder misalignment		•	•
Smaller oil reservoir		•	•
Patented cyclones to minimize free air returning to the oil		•	•
Bottom tray to contain oil leaks		•	•
Larger logic valves		•	•
Advanced hood with doors for easy access to install components		○	○
Designed to minimize the risk of oil leakage (with advanced hood)		•	•
Sliding function for quick access to shaft couplings (with advanced hood)		•	•
Larger pump			•
Double pump system (VPA20)			○
Standby function (with double pump)			•

• Included  
○ Optional

A photograph of a large industrial facility, likely a steel mill, showing a complex system of machinery with rollers and structural beams. The lighting is dramatic, with bright spots and deep shadows. The machinery is blue and metallic, with some yellow components. The background shows a high ceiling with structural elements and lighting fixtures.

Case: Major iron producer, Australia

# HPU upgrade drives major productivity gains

## Challenge

- The customer was experiencing capacity limitations in their plant and sought to enhance filtration throughput.

## Solution

- After evaluating the existing process, it was determined that two HPU upgrades on their current VPA filters would provide the necessary increase in throughput for the customer.

## Results

- In August 2019, two new units were seamlessly integrated into the reference plant.
- The observed time savings translate to a significant reduction in total cycle time, resulting in a noteworthy increase in production per hour, day, and year.
- The overall cycle time was successfully reduced by an impressive 75-80 seconds, a 40% time reduction saving.

Cycle time reduced by  
**75-80 seconds**

