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Metso Nordplant™

The fastest way to full production in
greenfield and brownfield quarries

Deana Sbarzaglia



Outline

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PART 1

- What is Metso Nordplant™?
- References Cases
- How to get your first ready to run crushing plant?
- Nordplant™ complete plants - The fastest way to full production in Greenfield quarries

PART 2

- Nordplant™ modules in brownfield applications
- References Cases

PART 1

What is Metso Nordplant™?

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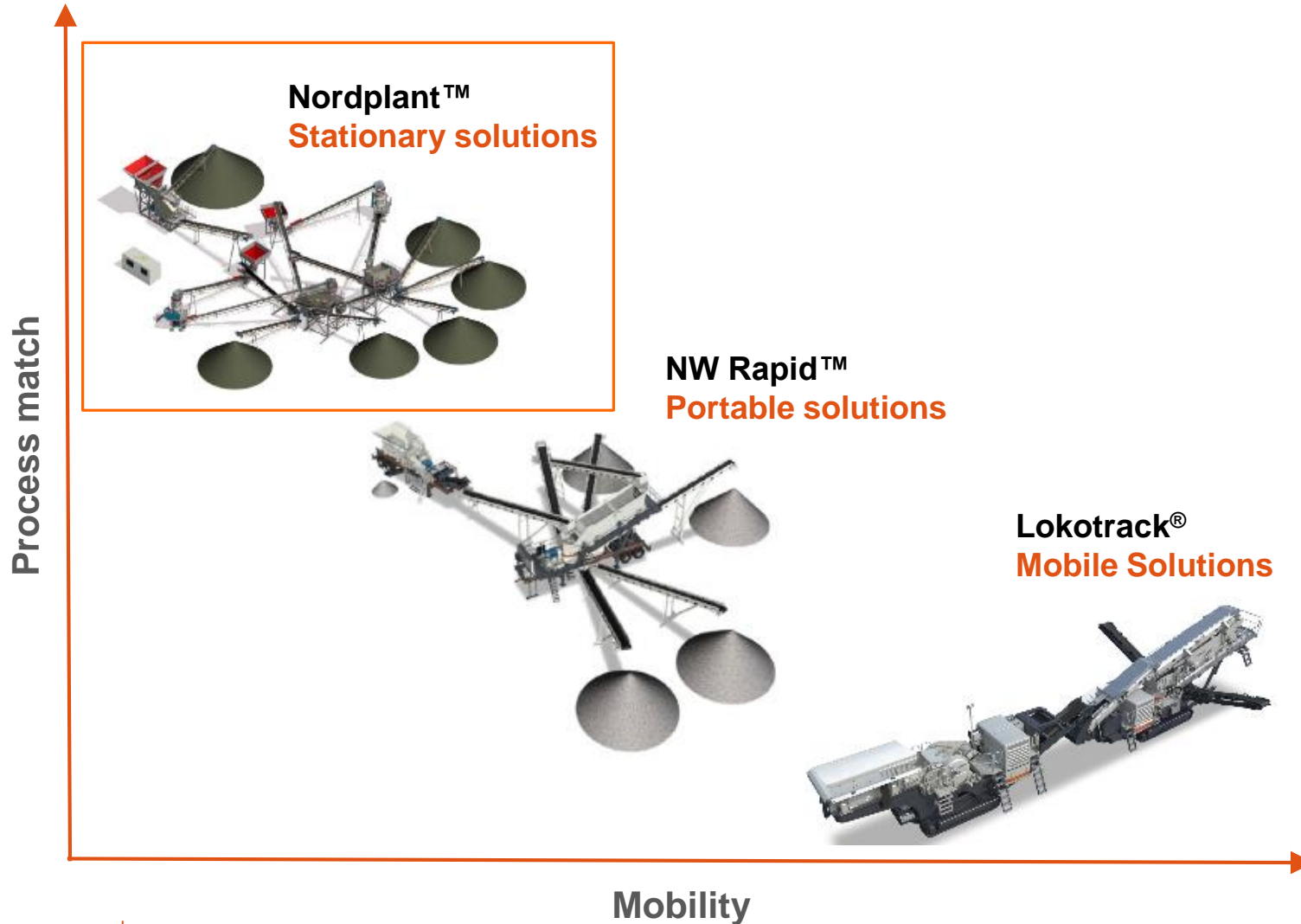
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Nordplant™
is a **MODULAR** and **STATIONARY** solution

Nordplant™ is a STATIONARY solution

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Key features

- Standard, pre-defined modular design with fast delivery
- Plant will stay in one location for multiple years
- Guaranteed performance
- Electrical and automation packages included
Centralized control
- Great accessibility

Nordplant™ is a MODULAR solution

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Nordplant™
Includes
Standard Modules
and other equipment and services for
complete
crushing and screening process

Crushing and screening modules



Flow Sheet Lay Out

Complete plants

Modules

Conveyors and hoppers

Electrification and automation



Foundation and site preparation

Metso Supervision for plant assembling and commissioning

Nordplant™ is a modular stationary solution

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Nordplant™
integrates
**PREDESIGNED
MODULES**
into
10
**OPTIMIZED STANDARD
PLANTS**



Nordplant™ is a modular stationary solution

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Key features

- Engineering ready, proven solution → **fast delivery, production guarantees and safety**
- Process flowsheet ready → **easy to check if it fits to customer required plant capacity and end products needs**
- Layout ready → **easy to check if it fits to customer site and estimate civil works**
- Containerization plan ready → **easy to transport**

Nordplant™ is the ideal solution when..

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- 1 Aggregates demand is expected to stay at good level
- 2 Crushing permit is valid for multiple years
- 3 Multiple fractions are needed based on seasons or for different end customers needs
- 4 Production capacity is up to 400 metric tph
- 5 Project time are limited

Best proven solution for remote locations



Nordplant™ in Paraguay

Nordplant™ 5.1

Material **BASALT**

3 Crushing stages

Nordberg® C120™ jaw crusher, 2 x Nordberg® HP300 cone crushers

250 t/h 0-25 mm

5 Aggregates fractions for road applicati

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Nordplant™ 5.2

Material **DIORITE**

3 Crushing stages

Nordberg® C116™ jaw crusher, 2 x Nordberg® HP300 cone crushers

200 t/h 0-18 mm

5 Aggregates fractions



Nordplant™ in Ghana

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Nordplant™ 5.1 with intermediate Stockpile

Material **GRANITE**

3 Crushing stages

Nordberg® C120™ jaw crusher, 2 x Nordberg® HP300 cone crushers

250 t/h 0-25 mm

7 Aggregates fractions



Nordplant™ in India

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Nordplant™

Material BASALT

3 Crushing stages

Nordberg® C106™ jaw crusher, Nordberg® GP220™ cone crusher, Barmac® B7150SE Series™ VSI crushers

160 t/h 0-20 mm

40% manufactured sand



Nordplant™ in El Salvador

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Nordplant™ 7

Material **BASALT**

3 Crushing stages

Nordberg® C120™ jaw crusher,

Nordberg® HP4 cone crusher,

Barmac® B9100SE Series™ VSI crushers

290 t/h 0-20 mm

5 Aggregates fractions



16 Belt conveyors (360 m)

1300 KW installed

20 containers

11 weeks spent for safely install and commission the plant

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Nordplant™ in Paraguay

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Plant relocation in another site
in 7 weeks under Metso supervision



Nordplant™ 5.1 with intermediate Stockpile



How to get your first ready to run crushing plant?



Select your complete solution



1. Design

- 10 complete ready-made plants
- Performance guaranteed by Metso

Metso offers **10** pre-designed and ready-to-run Nordplant™ complete solutions with **2 and 3** crushing stages and capacities up to **400 tph**

Step 1 What type of rock are you processing?		Low to very abrasive rock High quality aggregates shape			
Step 2 How many different end products do you need to produce?		No. end products size fractions	5	5	5
Step 3 What is your planned production capacity (tph)?		Max feed size	700 610 (*)	700 610 (*)	700
Production data - From hard to soft rock	Feed products t/h	260 / 310	240 / 320	310 / 380	
	End products 0-25 mm t/h	220 / 250	210 / 250	270 / 310	
Step 4 How consistent does your end product need to be?		Product quality (shape)	•••	••••	••••
Your Nordplant solution		Nordplant model	5	6	7
Configu-ration	Crushing modules	C120 VF561-2V TK13-20-3V or C116 VF544-2V (*) HP300 HP300	C120 VF561-2V TK13-20-3V or C116 VF544-2V (*) HP300 B7150	C120 VF561-2V TK13-20-3V HP4 B9100	
	Screening modules	CVB1845-4M CVB2060-4M	CVB2060-4M CVB2060-4M	CVB2060-4M CVB2060-4M	

Example of a **No. 5 Nordplant** complete plant for high quality shape



Define process and options

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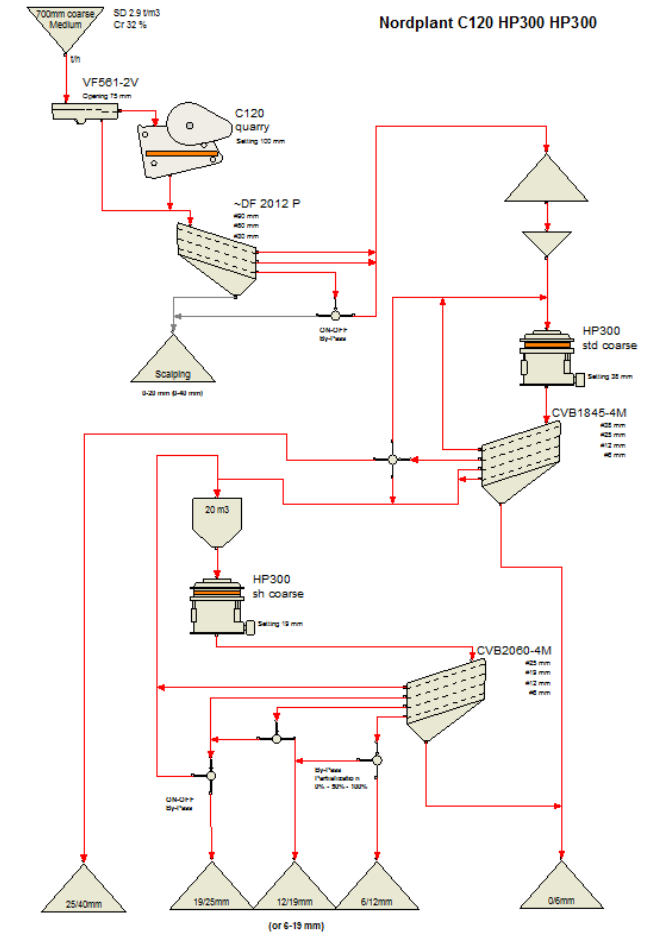
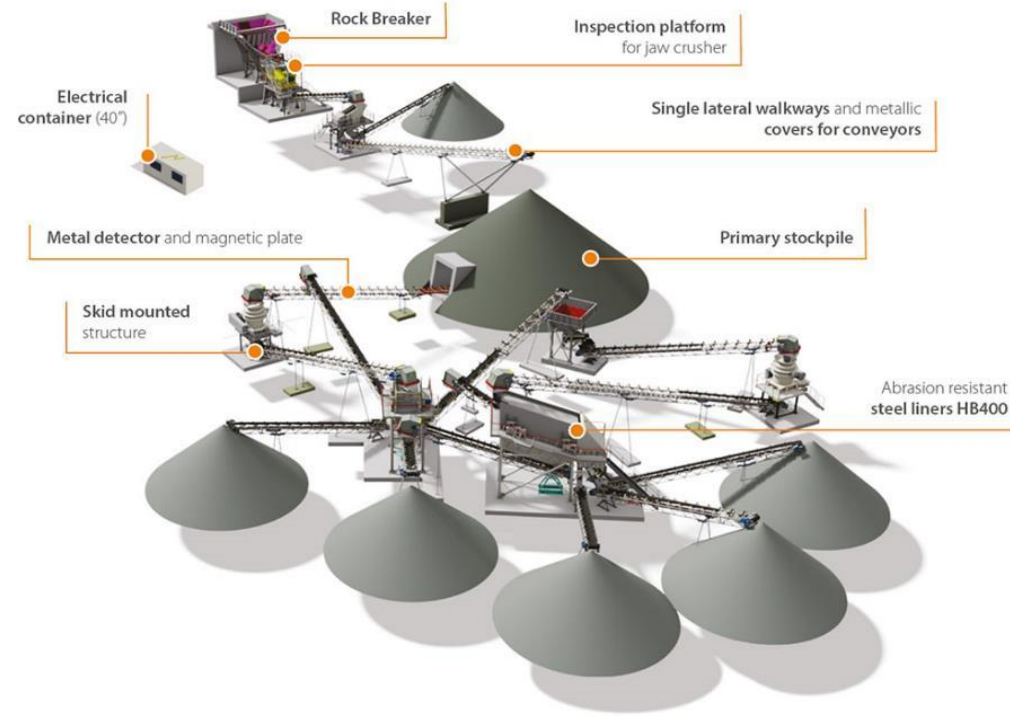
1. Design

- 10 complete ready-made plants
- Performance guaranteed by Metso



Nordplant™ Technical Documentation

- Flowsheet
- Plant layout
- Detailed scope of supply
- Recommendation for Genset



Pre-shipment

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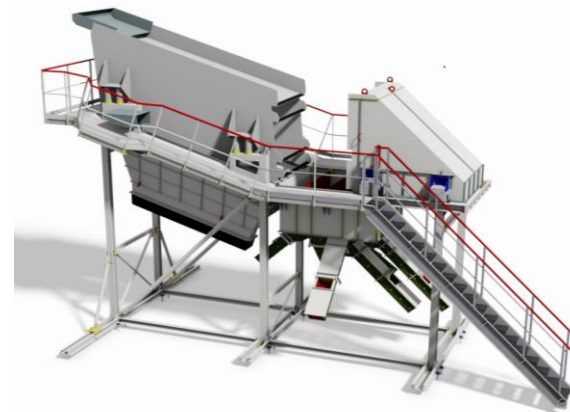
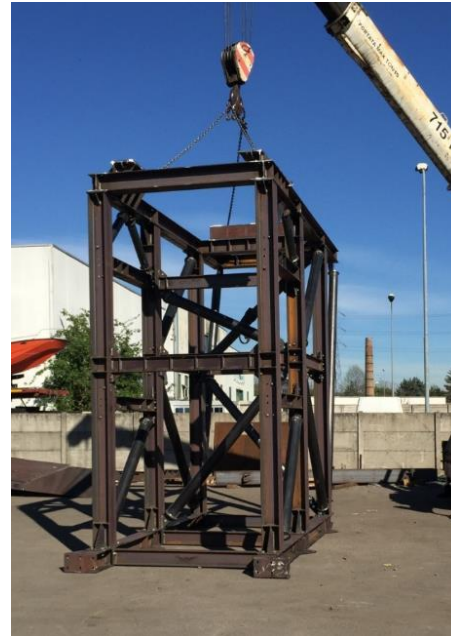
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2. Pre-shipment

- Pre-assembly and structure quality control
- Electrical cabinet inspection and testing



- Steelworks pre-assembly at factory and quality controls before shipping out the plant



Delivery in standard containers

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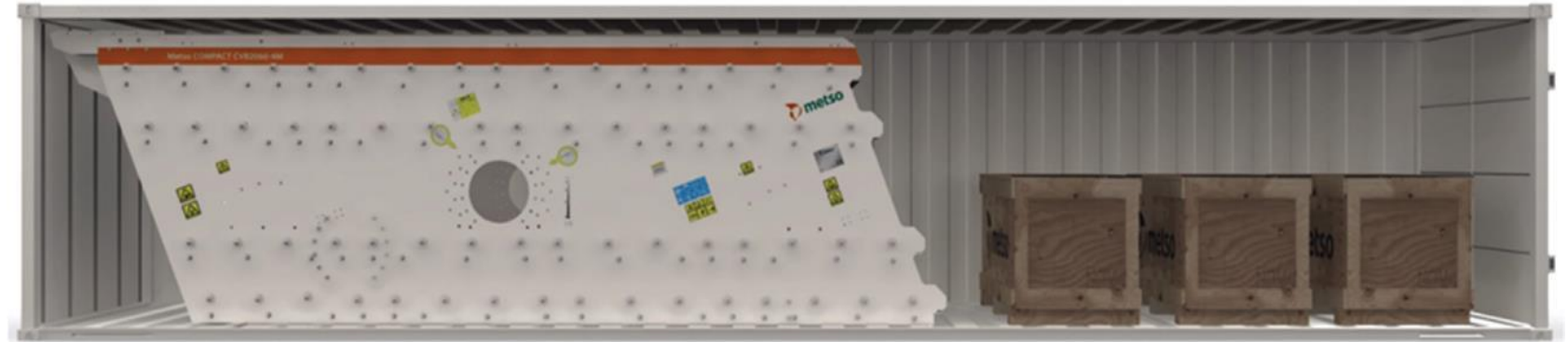
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3. Delivery

- Delivered in standard containers or on trucks
- Detailed shipping schedule and packing lists



- Metso machines are shipped in standard containers
- Nordplant structures and conveyors are optimized for packing and shipping in standard containers



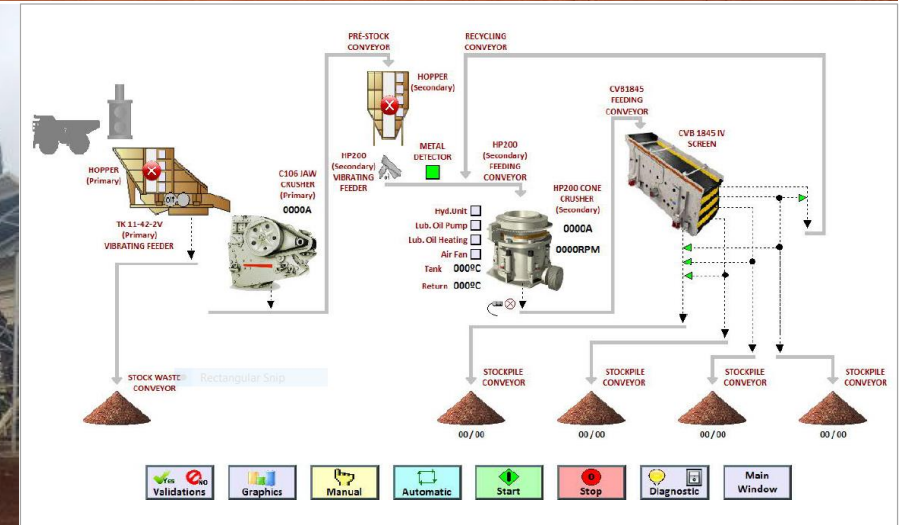
Assembling

4. Installation

- Supervision by Metso experts
- Civil works guidelines
- Detailed documentation
- Complete electrical and automation packages



Mechanical and electrical assembling supervised by Metso experts



Testing & Commissioning, Start-up & training

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6. Start-up and training

- Supervision by Metso experts
- On site training for customers technicians



5. Testing and commissioning

- Supervision by Metso experts



30-40% faster delivery time



Customized Delivery project



Nordplant™



Pre-engineered Modules
Components Standardization
Critical components Stock

Transport in
containers

Supervisor provided
Components standardization and reduction
for easy assembling

Enablers of faster delivery time

Customer benefit: **Short financing time before start-up**

PART 2

How to improve the performance of your existing crushing and screening plant ?

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Nordplant™ Pre-designed Crushing Modules

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Key features

- **Metso Crusher as the core**
- Pre-designed, complete and compact
- Process solution on brown field and replacement cases
- Various options for further improving crushing efficiency and safety
- Designed according to European Machine directive (CE) requirements
- Safe by design and for use

Pre-designed Cone Crusher Modules

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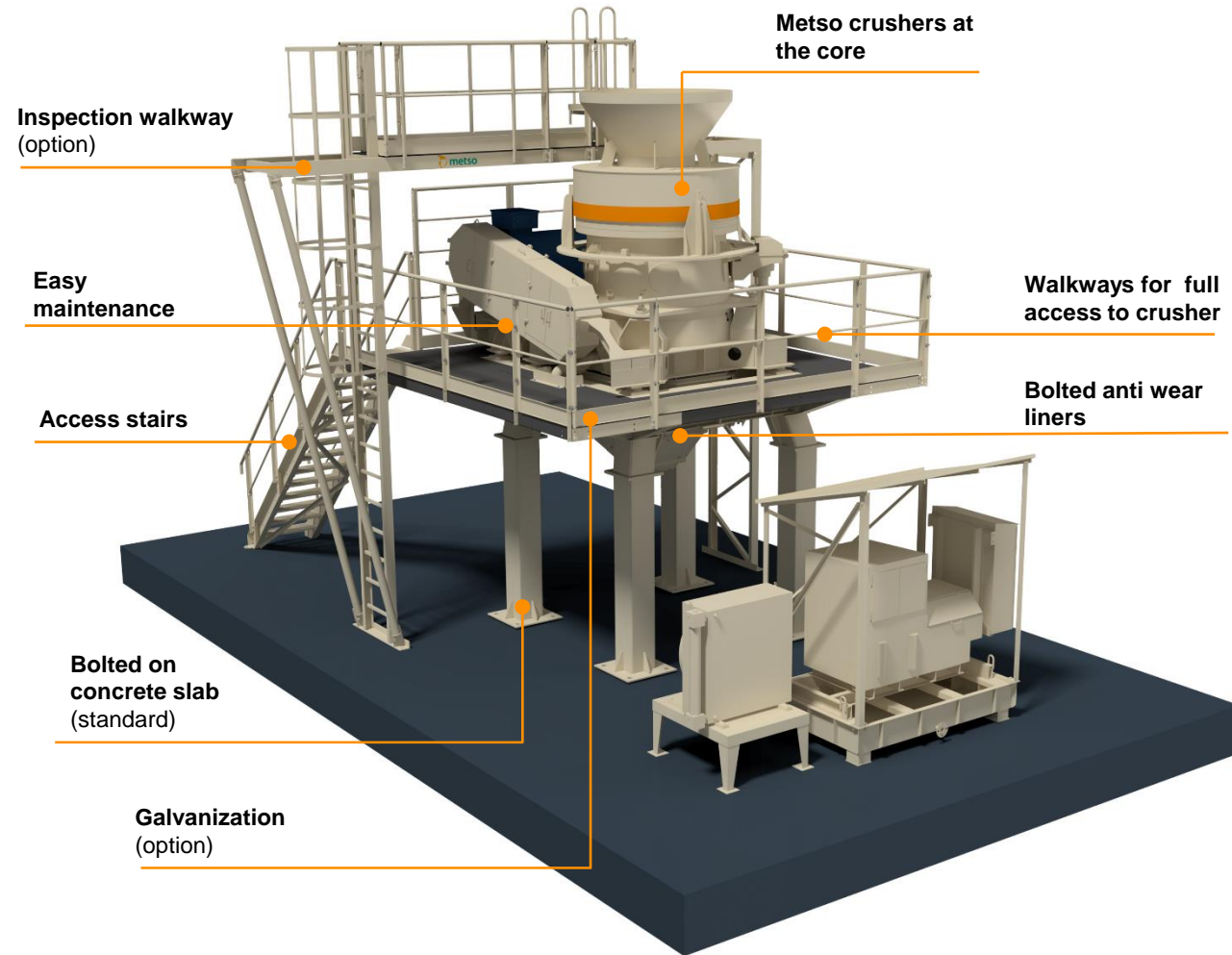
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Secondary and Tertiary

BASIC Configuration Including:
CONE CRUSHER, electrical motor
Metso IC Automation System
Standard structures and chutes

OPTIONS

- [1] - Skid mounted structure
- [2] - Oil tank roof
- [3] - Inspection walkway
- [4] - Steelworks galvanization
- [3] - Electrical cabinet for Crusher power control including cables



Pre-designed Jaw Crusher Modules

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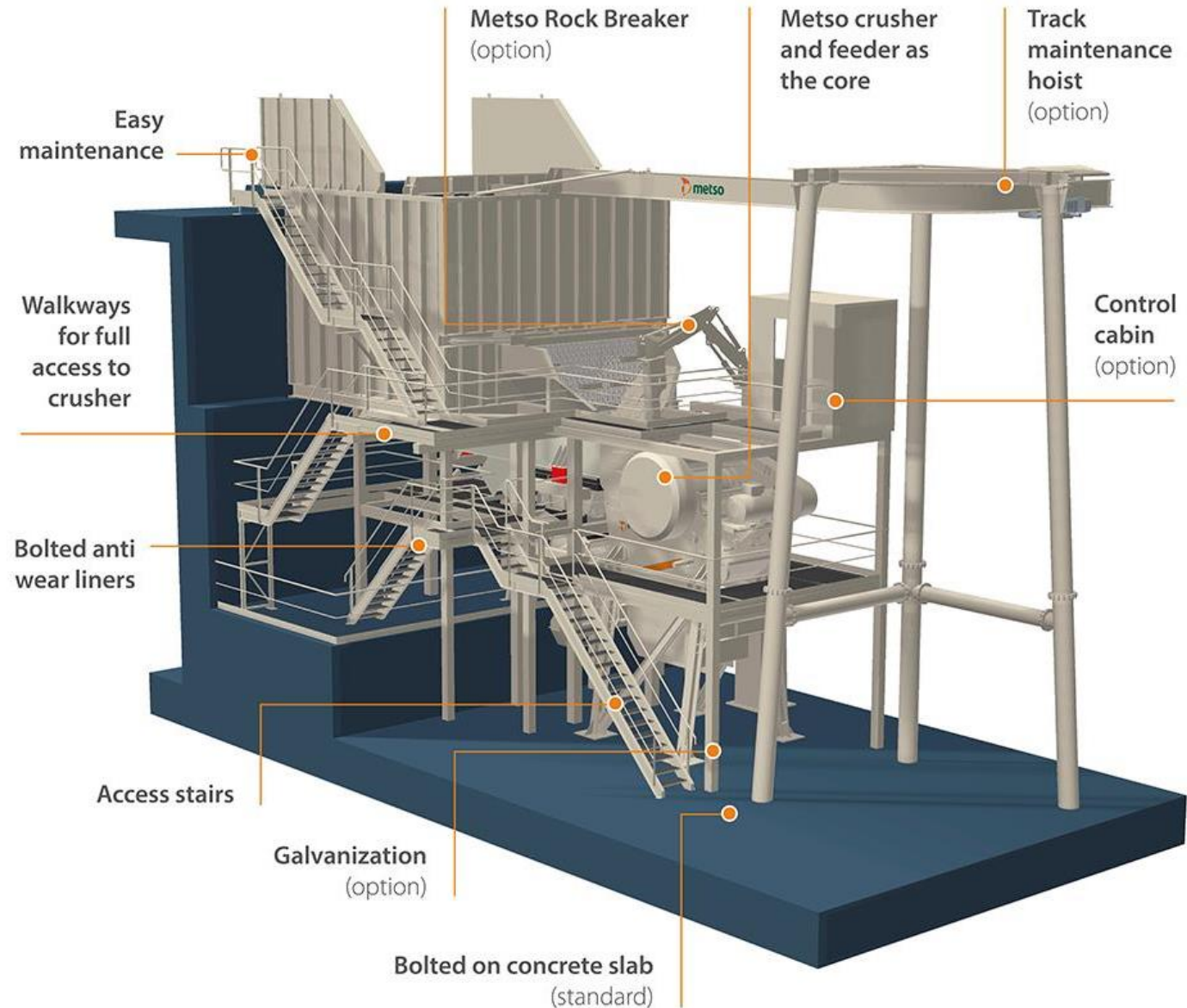
Primary Jaw Crushers

BASIC Configuration including:

PRIMARY FEEDER
SCREEN BAR SCALPING
JAW CRUSHER
STANDARD STRUCTURES AND
CHUTES

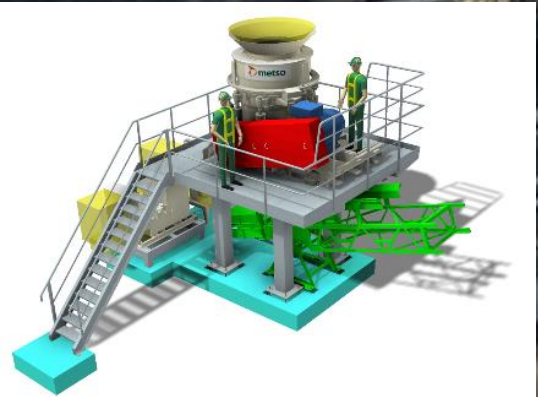
OPTIONS

- [1] - Rock Breaker
- [2] - Control Cabin
- [3] - Lifting hoist
- [4] - Steelworks galvanization



Process solution on brown field and replacement cases

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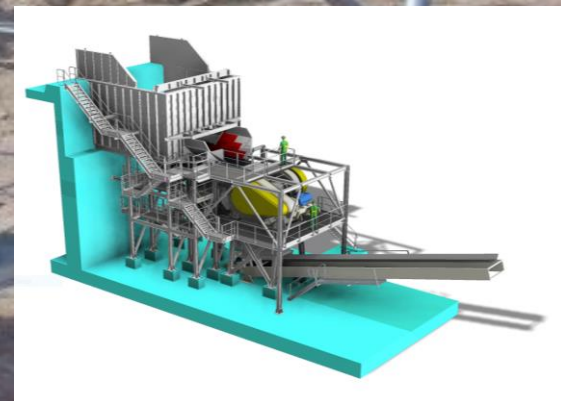
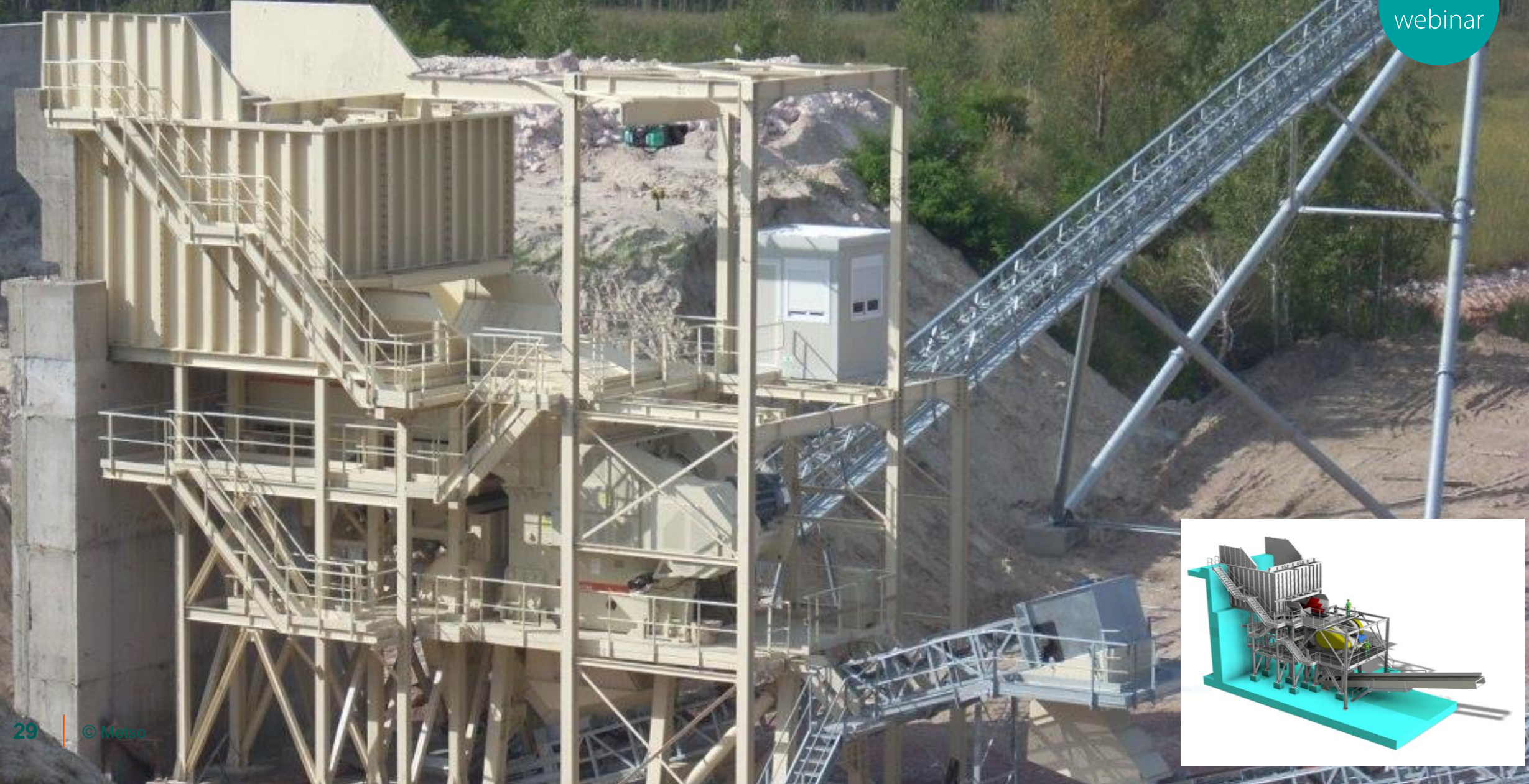


New primary crushing line

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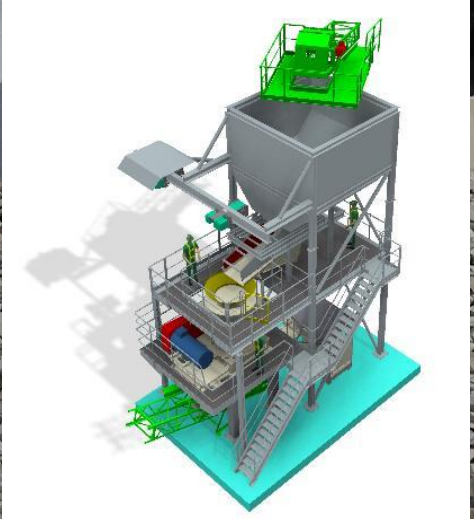
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Nordplant™ module integrated on Metso PrimeSite™ solutions

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Metso Nordplant™

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Is a modular and stationary solutions

Is pre-designed with components standardization

Offers proved and tested solutions for different customers needs

Includes the complete delivery package

Meets local safety standards

The Fastest way to full production

Nordplant™ Links

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Nordplant™ - Video	https://www.youtube.com/watch?time_continue=3&v=ccqQyyLH3tk
Nordplant™ 5.1 Paraguay - Video	https://www.youtube.com/watch?time_continue=2&v=5eJ21V3Mixk
Nordplant™ India - Video	https://www.youtube.com/watch?time_continue=14&v=7sGibDXRHRw&feature=emb_logo
Nordplant™ 5.1 Paraguay	https://www.metso.com/showroom/construction/los-trigales/
Nordplant™ 5.2 Guinee	https://www.metso.com/showroom/construction/hummingbird/
Nordplant™ 5.1 Mali	https://www.metso.com/showroom/construction/iventus-achieves-optimized-process-performance-with-nordplant/
Nordplant™ India	https://www.metso.com/showroom/construction/ktn-gains-business-potential-with-new-operations/



THANK YOU