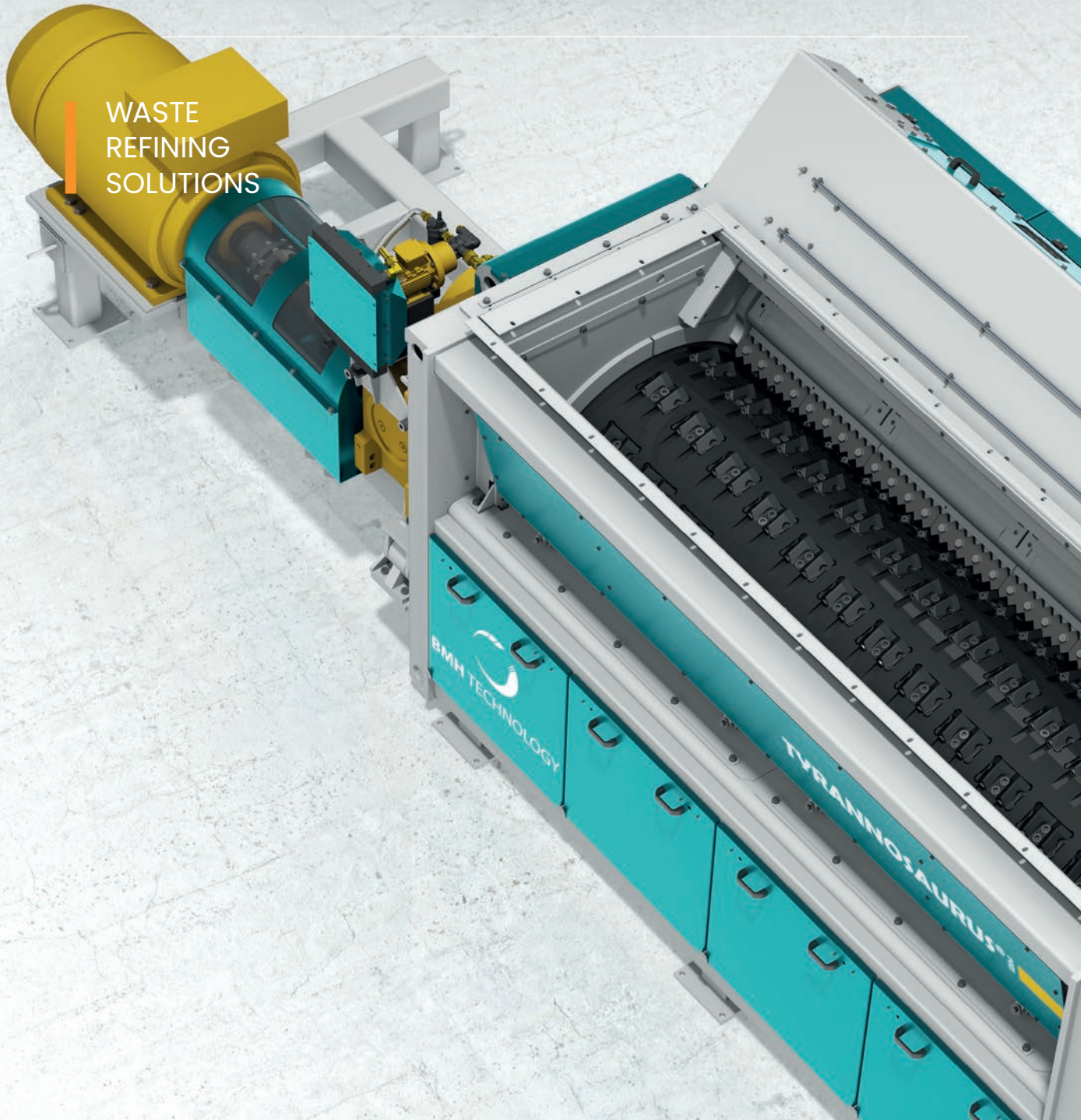




TYRANNOSAURUS® series

T120X

WASTE
REFINING
SOLUTIONS



SHREDDERS & CRUSHERS



Over 250 plant deliveries
around the world

We are creating Renewable Future Together.

1

Renewable

BMH DESIGNS AND BUILDS solutions for recycling, material recovery, renewable energy and recreation of raw materials.

2

Future

WE WANT TO BE an integral part of building greener and cleaner future globally.

3

Together

WE WORK TOGETHER with our customers and enable them to succeed in their businesses and environmental targets. This we do together within BMH as a team.

We create solutions for waste to be reborn as raw materials and renewable energy.

We have decades of experience in waste processing and biomass handling.



TYRANNOSAURUS® Waste Shredders & Biocrushers

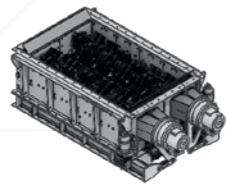
We are creating Renewable Future Together.

Waste

Biomass

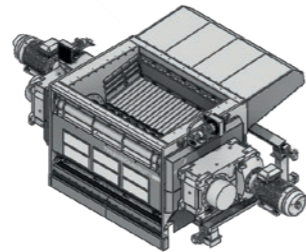
T660X series

Pre-shredder for MSW & ICW



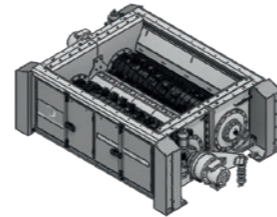
T770X series

Main shredder for ICW & MSW



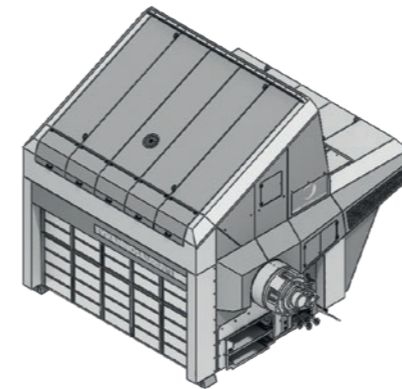
T880X series

Main shredder for MSW & ICW



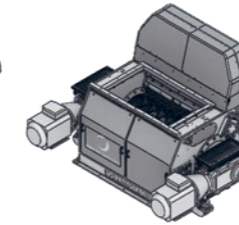
T990X series

Main shredder for ICW & MSW



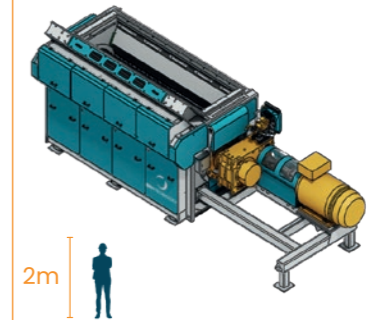
T750X series

Post-screening over-size shredder for ICW & MSW



T120X series

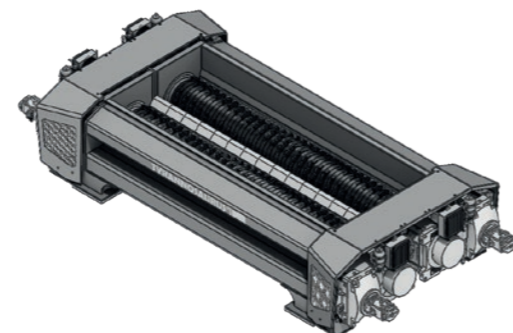
Fine shredder for sorted and pretreated waste



All our rotors have spiral knife arrangement. This means maximized power for each cutting event.

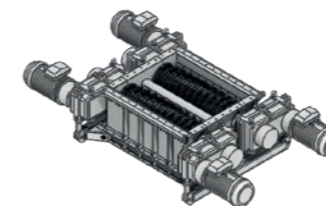
T902X series

Main crusher for wood-based biomass



T65XX series

Post-screening over-size crusher for wood-based biomass



We have delivered more than 270 stationary shredders since 1980.



TYRANNOSAURUS® Shredders and BioCrushers are the core of our expertise. They are the outcome of long experience in material handling combined with outstanding engineering skills. TYRANNOSAURUS® Shredders and BioCrushers represent smart technology, raw power and excellent availability with high capacity.

bmh.fi

MSW = Municipal Solid Waste ICW = Industrial and Commercial Waste

A TYRANNOSAURUS® fine shredder in a waste refining process increases significantly the quality of the produced fuel.

T120X series

The finest particle size with consistency

THE T120X FINE SHREDDER series consists of electrically driven, high-speed, single-rotor shredders. It's specifically designed for industrial scale refining of pre-shredded and segregated solid waste that needs to be reduced to 20–70 mm for the purpose of increasing fuel combustibility or optimizing the particle size for further processing.

1

THE T120X SERIES plays a significant role in an RDF/SRF process line where the even particle size is a key factor. The T120X shredders will be tailored to produce a desired particle size in the range of 20–70mm with high capacity.

T120X series represents outstanding capacity.

2

ZERO GAP® cutting technology and semi-automatic MIPS® enable low OPEX.

3

LOW OPERATING and maintenance costs. The greatest benefits are achieved when integrated with a complete TYRANNOSAURUS® Air Classifier.

4

Typical applications for T120X series shredders are to produce:

- ➔ Alternative fuel for cement kilns
- ➔ Feedstock for RDF pellets production
- ➔ Feedstock for chemical production

Semi-automatic MIPS® (Massive Impact Protection System).



Waste material often contains foils and plastic films that are difficult to process. As one of the design aspects, we have focused on developing the ideal knife geometry capable to handle even the thinnest waste materials.

LET TYRANNOSAURUS® SHOW ITS TEETH.

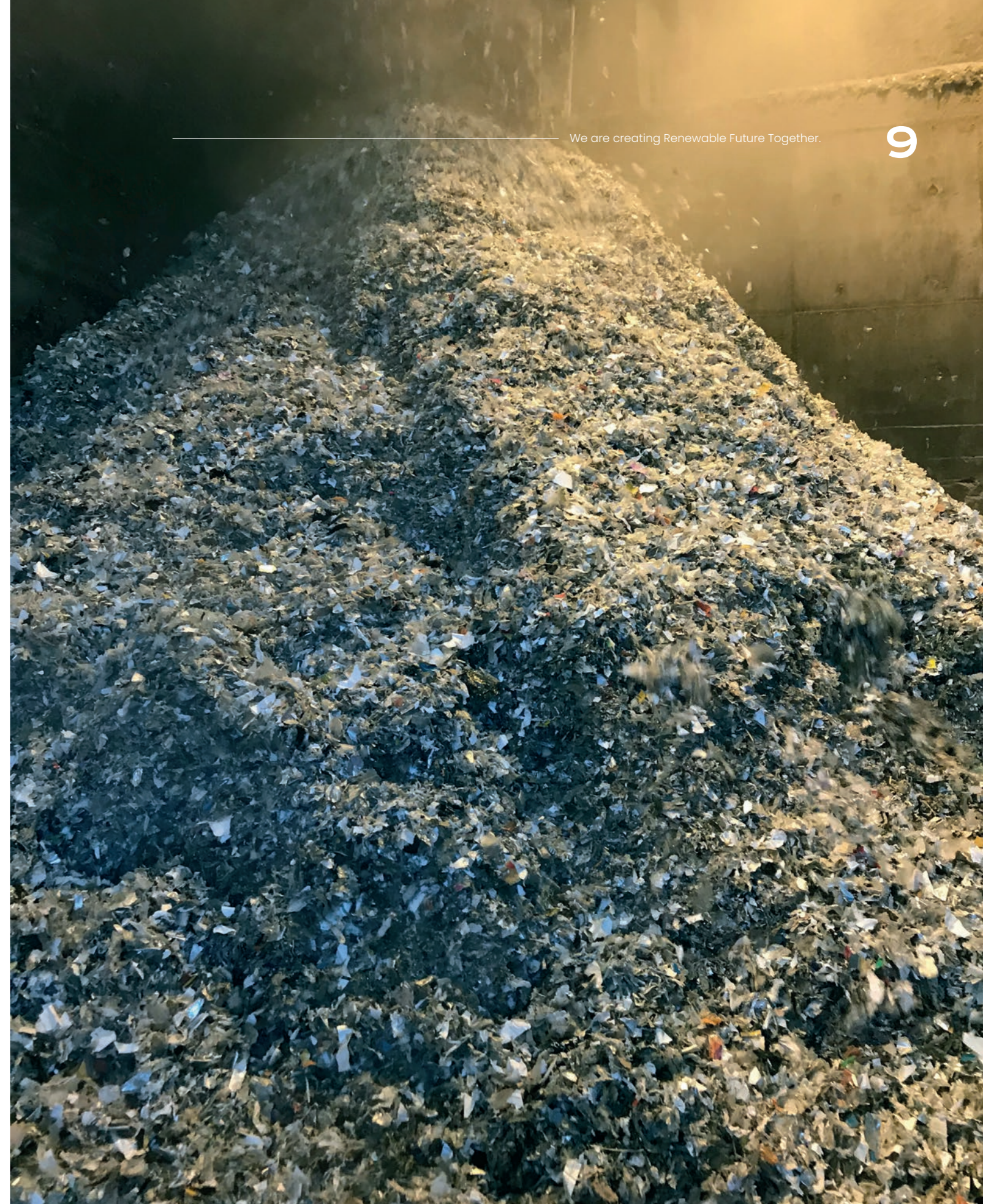
Designed to perform

THE T120X SERIES fine shredders are designed for refining pre-shredded and segregated solid waste, which usually consists of plastics, cardboard, wood and textiles.

These shredders are ideal for producing the finest particle size when there is a need to increase fuel combustibility or optimize the particle size for further processing.



The T120X series is ideal for producing the finest particle size for alternative energy utilization.



**ZERO GAP®
TECHNOLOGY
MAINTAINS
THE CUTTING
GAP IN ZERO.**

High average capacity

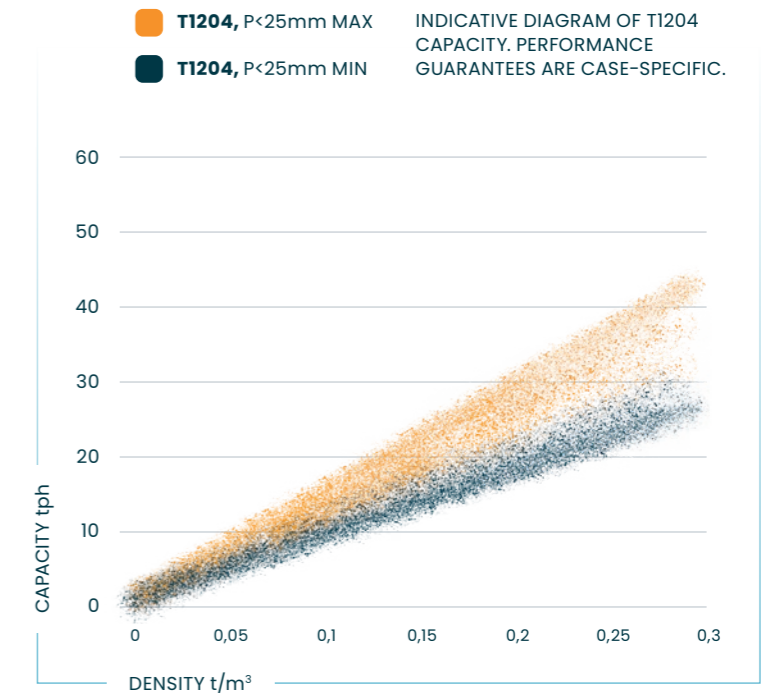
THE LONG-TERM CAPACITY is generated by average hourly capacity and up-time hours. When it comes to T120X, we have focused on both factors.

T120X SERIES is capable of delivering high average capacity because:

- 1 High power (250 or 355 kW) enables also reserve for different load demands. However, the power consumption is eco-friendly thanks to advanced inverter control.
- 2 The pusher, controlled by the shredder's intelligent automation system, presses the material against the rotor.
- 3 The cutting technology has been optimized from several aspects:
 - The ZeroGap® cutting technology: each 800 mm section of the counter knives can be adjusted in a way that the capacity is maintained even when the knives start to wear.

- The formidable rotor of T1204 is 1200 mm in diameter and houses a tremendous 312 knives. This combined with optimized knife size and rotation speed leads to superb cutting performance.
- The power is allocated on a single cutting event by spiral knife arrangement.

**A COMBINATION
OF HIGH POWER
AND EFFECTIVE
CUTTING AREA.**



The knives are positioned in a spiral shape, which protects the drive unit from high-load peaks.

High capacity by high uptime

TO REACH MAX UPTIME, BMH has focused not only on robustness but also on introducing relevant design and technologies

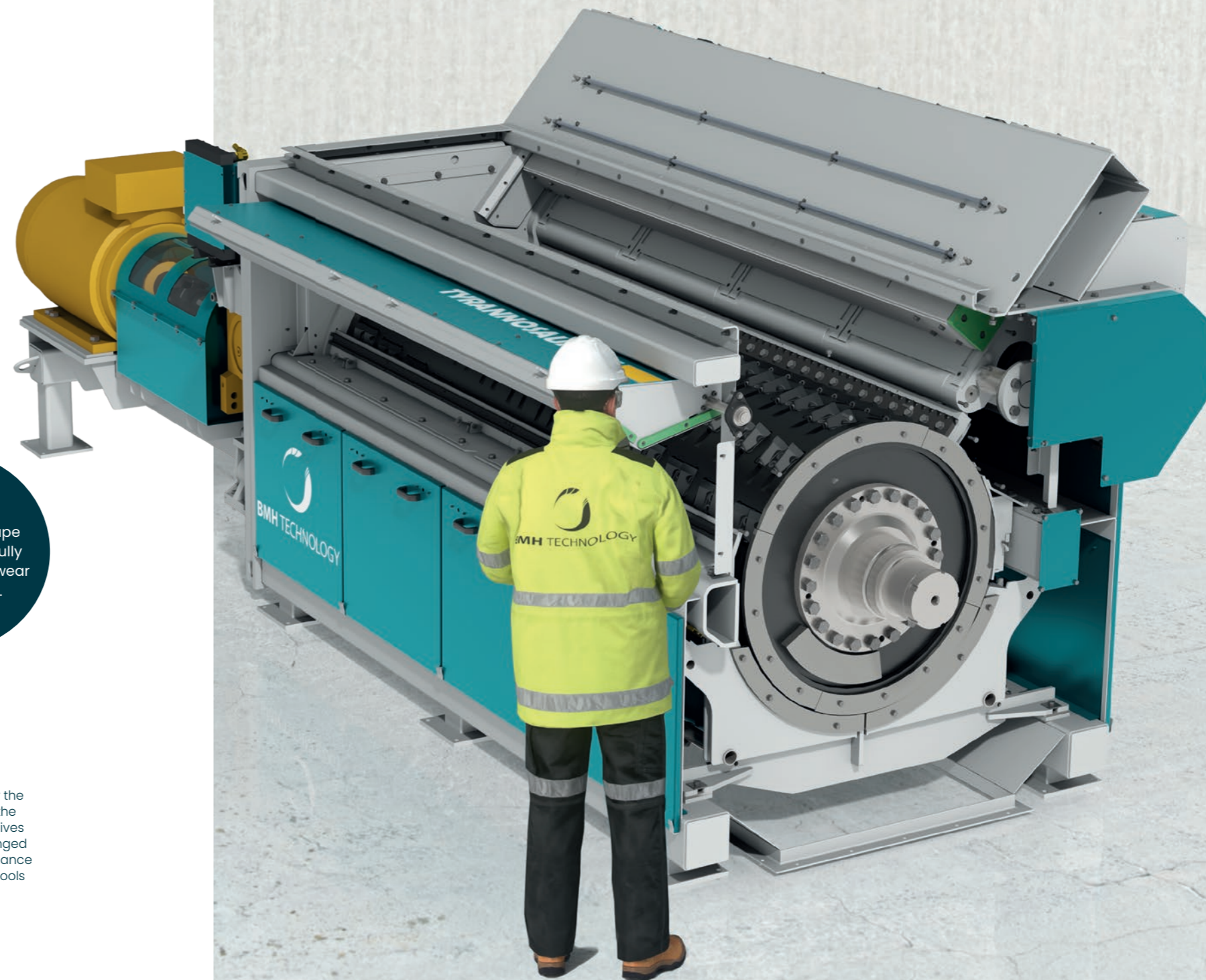
SEMI-AUTOMATIC MIPS®

- ➔ The counter knives are held in position hydraulically. This allows the MIPS® system to reject unshreddable materials and prevents damages to the shredder.
- ➔ The semi-automatic MIPS® enables easy removal of unshreddables without the need to enter the feeding hopper.

A TREMENDOUS NUMBER OF KNIVES REDUCES THE LOAD PER KNIFE, WHICH LEADS TO LONGER KNIFE LIFETIME.

The knives' material and shape have been carefully selected to resist wear and fracturing.

➔ There is no need for the operator to go inside the hopper as the rotor knives can be turned or changed through wide maintenance doors. Only standard tools are needed.



Productivity is not only about the downtime of the machine but also the uptime of people.

Reduced downtime by shortening the breaks in operation

ALL MACHINES REQUIRE maintenance stops. We've put plenty of effort on easy maintenance.

Big doors and hatches ensure that accessing the shredder is effortless. Cleaning, maintenance and

replacement of spares take only a minimal amount of time. Operational hours can be used for the main function – shredding.

Shredder protected by means of automation and mechanical protection

when something hard faces the rotor.

Furthermore, safety standards have always been a priority in our products – it's not only about the downtime of the machine but the uptime of the people.



Big doors and hatches ensure that accessing the shredder is effortless.

THE KNIVES
ARE FAST
AND EASY
TO REPLACE.

Air classifiers have been manufactured by BMH since 2003.

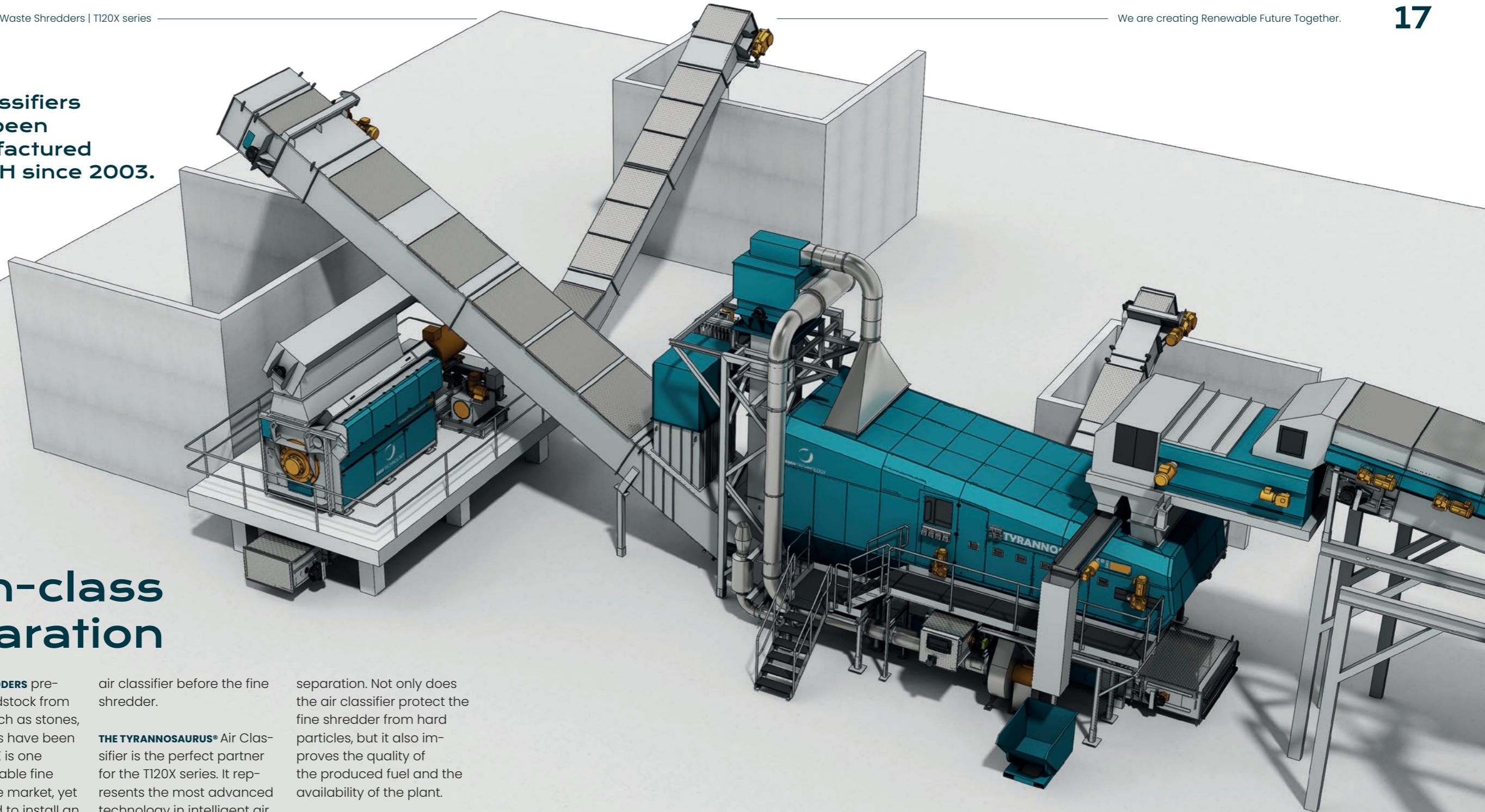
High-class separation

ALL THE FINE SHREDDERS prefer optimal feedstock from which inerts, such as stones, bricks and glass have been removed. T120X is one of the most durable fine shredders in the market, yet we recommend to install an

air classifier before the fine shredder.

THE TYRANNOSAURUS® Air Classifier is the perfect partner for the T120X series. It represents the most advanced technology in intelligent air

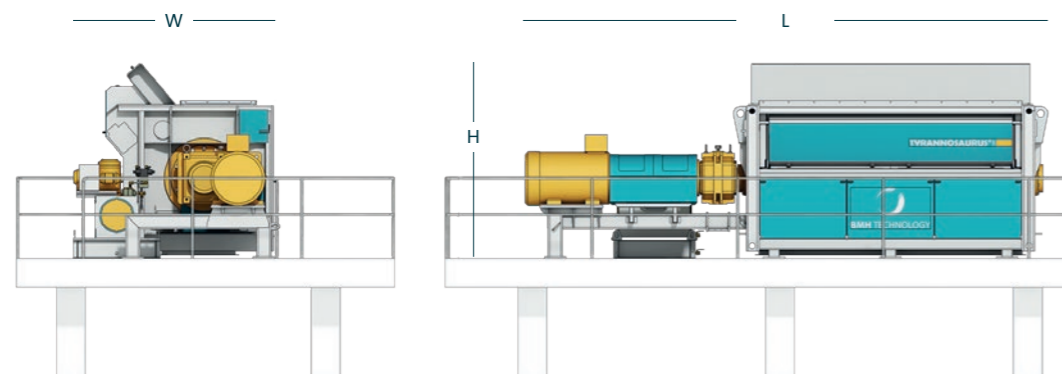
separation. Not only does the air classifier protect the fine shredder from hard particles, but it also improves the quality of the produced fuel and the availability of the plant.



T120X series / Technical details

MODEL	T1203	T1204
MAIN DIMENSIONS (L x W x H) [mm]	7200 x 2350 x 2730	8000 x 2350 x 2730
WEIGHT [t]	22	25,5
DRIVE POWER [kW]	250	355
DRIVE SYSTEM	ELECTRIC	ELECTRIC
INFEED OPENING [mm]	2400 x 1050	3200 x 1050
NUMBER OF ROTORS	1	1
ROTOR LENGTH [mm]	2400	3200
ROTOR DIAMETER [mm]	1200	1200
ROTATION SPEED (rpm, max)	200	200
ROTOR KNIVES (pcs)	232	312
COUNTER KNIVES (pcs)	18	24
CASSETTES + SCREENS (pcs)	3+6	4+8
CAPACITY [t/h, max]*	UP TO 15	UP TO 25
TYPICAL OUTPUT PARTICLE SIZE [mm]	30	30
AUXILIARY HYDRAULIC POWER UNIT(kW)	16	16

* THESE INDICATIVE VALUES HAVE BEEN CALCULATED USING TYPICAL WASTE PROPERTIES. PLEASE SEE GRAPH ON P. 11.



We design and build solutions for recycling, renewable energy and recreation of raw materials.



BMH TECHNOLOGY

Finnish cleantech company rooting back to 1929.

We create solutions for waste to be reborn as raw materials and renewable energy.

We offer material handling solutions for our customers who work towards carbon neutrality and a greener future. With our plant solutions, equipment and life cycle services they can reuse material previously seen merely as waste. We help our customers turn municipal, industrial, commercial and wood-based waste into raw materials and renewable energy. This answers to the needs of industrial, chemical and energy production as well as construction and infrastructure.



COMPLETE SOLUTIONS



STRONG REFERENCES



EXECUTION CAPABILITY



LOCAL SERVICE

Renewable
future
together.

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