



***First In  
Service***

*When Quality Matters*

# High-Precision Manufacturing for Demanding Industrial Applications

Precision. Reliability. Partnership.

# Market Challenges & Customer Pain Points



## In Heavy Equipment Projects , Performance Depends On Controlling Four Key Risk Areas

### 1. Execution Capability

Reliable handling of complex geometries, exotic materials, and tight tolerances — without rework.

### 2. Compliance Discipline

Weld qualifications, traceability, and documentation structured to pass audit on first review.

### 3. Delivery Predictability

Controlled timelines despite capacity pressure and project complexity.

### 4. Integrated Control

Engineering, welding, machining, inspection, and documentation operating under one coordinated system.



In high-value equipment projects, manufacturing risk is business risk.

# We Deliver Predictability In Complex Manufacturing



## 1. Technical Predictability

Qualified WPS/WPQR (incl. duplex & exotic alloys)

Large-detail welding + precision machining

3D verification & EN-compliant execution

→ **Components fit, function, and pass — first time**

## 2. Compliance Predictability

Full traceability: MTC, Weld Maps, NDT, ITP

ISO 9001 | EN 3834-2 | EN 1090

Audit-ready documentation

→ **Approvals without delays**

## 3. Schedule Predictability

Integrated welding + machining flow

18,000 m<sup>2</sup> production | 160 t lifting | 13 m machining

→ **Controlled timelines without inter-company gaps**

## 4. Financial Predictability

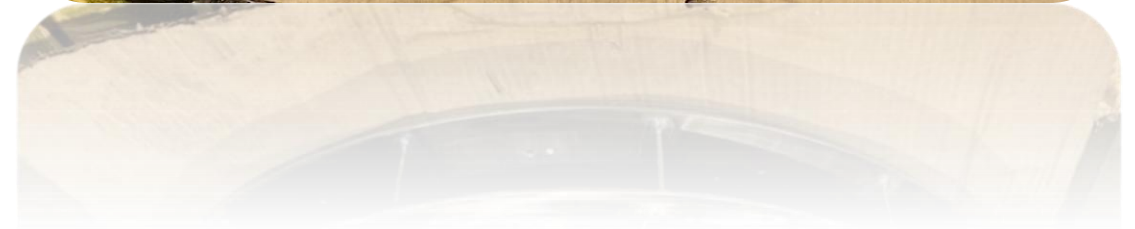
First-time-right execution

Reduced NCR cycles

Single-point responsibility

→ **Protected margins and milestones**

**In high-value equipment projects, predictability is performance.**





# Structured Expertise In Complex Heavy Equipment



## 20+ Years in Heavy Fabrication & Precision Machining

- 80 skilled professionals
- € 7–9M annual turnover
- 90% export to Tier-1 OEM markets
- 18,000 m<sup>2</sup> production facility
- 160 t lifting capacity
- Machining up to Ø2,700 mm, 13,000 mm length, 4500 mm height
- Integrated welding + large-envelope machining

## Core Expertise

- Complex welded-machined assemblies
- Pressure equipment components
- Rotating equipment parts
- Duplex, super-duplex, nickel alloys, titanium
- Large structures with tight geometric tolerances

## What This Means for OEMs

- Capability to execute technically demanding projects
- Confidence in exotic material handling
- Predictable quality under heavy-scale conditions
- Reduced integration and audit risk

**We Integrate Complexity — And Deliver Predictability.**



# Industries We Serve

## *Focused Expertise In Heavy Process Industries*



### Core Sectors

#### **Mining & Mineral Processing , Pulp & Paper**

- Heavy-duty structures and rotating assemblies for continuous, high-load operation

#### **Energy & Power Generation**

- Pressure-equipment and dynamic components under thermal and mechanical stress

#### **Offshore & Subsea**

- Corrosion-resistant welded-machined structures for harsh environments

### Core Technical Domain

#### **Complex Rotating & Heavy Welded Assemblies**

- Large welded structures requiring post-weld precision machining
- Shafts, impellers, housings, structural frames
- Duplex, super-duplex, nickel alloys & special materials
- Tight geometric tolerances under heavy load
- Full QC, NDT & audit-grade documentation

**Where engineering, welding, machining and compliance must perform as one controlled system.**



# TECHNICAL REQUIREMENTS & PROOF OF CAPABILITY

## *Engineering Precision Under Heavy conditions*



### **Engineering & Design**

- 3D modelling & detailed production drawings (SolidWorks, Autodesk Inventor)
- Strength calculations & FEM analysis
- Design-for-Manufacture (DFM) optimization
- Weld sequence planning for distortion control
- Tolerance stack-up and fixture strategy

### **Precision & Dimensional Control**

- 3D dimensional verification (FARO / laser measurement systems)
- Post-weld precision machining under geometric control
- Proven tight tolerance achievement (e.g., shaft concentricity  $\pm 0.02$  mm\*)



**From structural calculation to final inspection — execution remains under controlled engineering discipline.**



# TECHNICAL REQUIREMENTS & PROOF OF CAPABILITY

*Engineering Precision Under Heavy conditions*



## **Welding Engineering & Fabrication**

Qualified WPQR coverage for:

Carbon steel | Stainless steel | Duplex / Super

Duplex | Titanium & Special Alloys

Material thickness capability:

2 mm – 100+ mm

Metallurgical control includes:

- Pre-weld heating as per WPS
- Controlled interpass temperature monitoring
- Heat input management for duplex & special alloys
- Post-Weld Heat Treatment (PWHT) under QA supervision



**From structural calculation to final inspection — execution remains under controlled engineering discipline.**

# TECHNICAL REQUIREMENTS & PROOF OF CAPABILITY

## *Machining Capabilities*



### Precision & Heavy-Envelope CNC Machining

#### Large-Envelope Boring & Milling

- **Fermat WRF130** X 13 500 | Y 4000 | Z 730 | W 900
- **Fermat WRFT130** X 4200 | Y 2500 | Z 730 | W 900
- **Fermat TK6513** X 3500 | Y 2000 | Z 1600 | W 700
- **Micromill HBM4** X 2200 | Y 1600 | Z 1600 | W 500

### Milling Machines

- **Zayer XIOS 4000** - X 4000 | Y 1500 | Z 1400
- **Felipe X & Margraf FTL 30** - Large-format milling for oversized structures

### Carousel & Vertical Turning

- **SC27** — Ø table 2500 mm | max work Ø 2800 mm | height 1900 mm
- **Fremtas 20FFR3** — Ø table 1600 mm | max work Ø 2000 mm | height 1200 mm



**Machining synergy with fabrication — enabling predictable, controlled component outcomes.**



# TECHNICAL REQUIREMENTS & PROOF OF CAPABILITY

## *Machining Capabilities*

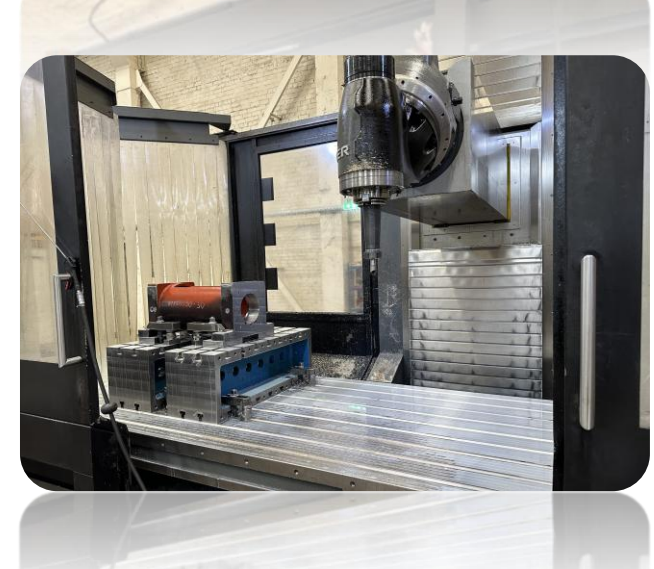


### Horizontal Lathes & Turning Centers

- Doosan PUMA 700LY Ø 1000 mm | max length 3 250 mm
- DIP 300 — Ø 360 mm | max length 1500 mm
- 1K62 (— Ø 420 mm | height 1000 mm)
- TUR 3036 — max length 3600 mm
- Metal Master — Ø 500 mm

### Support & Finishing Machines

- Precision CNC milling & finishing machines
- Dedicated fixture setups for tolerance control
- Measurement-assisted turning & finishing
- Balancing for rotating parts



**Machining synergy with fabrication — enabling predictable, controlled component outcomes.**

# Quality and Compliance

## Audit-Ready Manufacturing System

ISO 9001 | ISO 14001 | EN 1090 | EN 3834-2  
Pressure equipment: EN 13445-4 | EN 13480-4

## Project Documentation Includes:

- ITP (Inspection & Test Plan)
- Weld maps & full traceability
- NDT records (VT / PT / UT / RT)
- Dimensional reports
- Pressure test records (if applicable)

Faster Approvals. Protected Milestones.





# References

## Rotating Components



### **Shafts, impellers, housings for dynamic load environments**

- Weight: from 10kg up to 5000 kg
- Materials: Carbon Steel, Stainless steel, Duplex/ Super duplex, titanium
- Envelope ( $\varnothing$  / length):  $\varnothing 500 - \varnothing 4\,000$  mm
- Machining scope:
- Balancing: up to  $\varnothing 4\,000$  mm.
- Inspection scope: VT; PT, MT, RT.



**Installed without modification. Vibration within tolerance at commissioning.**



# References

## Gas Movement





# References

## Marine, Offshore & Subsea equipment



**Structures engineered for continuous operation under dynamic and corrosive load conditions.**

- Weight: from 100kg up to 50 000 kg
- Materials: Marine Grade Steels, Carbon Steel, Stainless steel, Duplex/ Super duplex
- Dimensions: 25 x 5 x 5 (LxWxH) m
- Inspection scope: VT; PT, MT, RT. Class
- approvals with Lloyds Register, BV, DNV etc.



# References

## Pulp and Paper

### Tanks, Pressure vessels & Piping.

- Design: Design According to EN13445 /PED2014/68/EU
- Weight: from 200kg up to 25 000 kg
- Materials: Carbon Steel, Stainless steel, Duplex
- Dimensions: 25 x 5 x 5 (LxWxH) m
- Inspection scope: VT; PT, MT, RT.





# References

## Mining equipment



# CONTACTS



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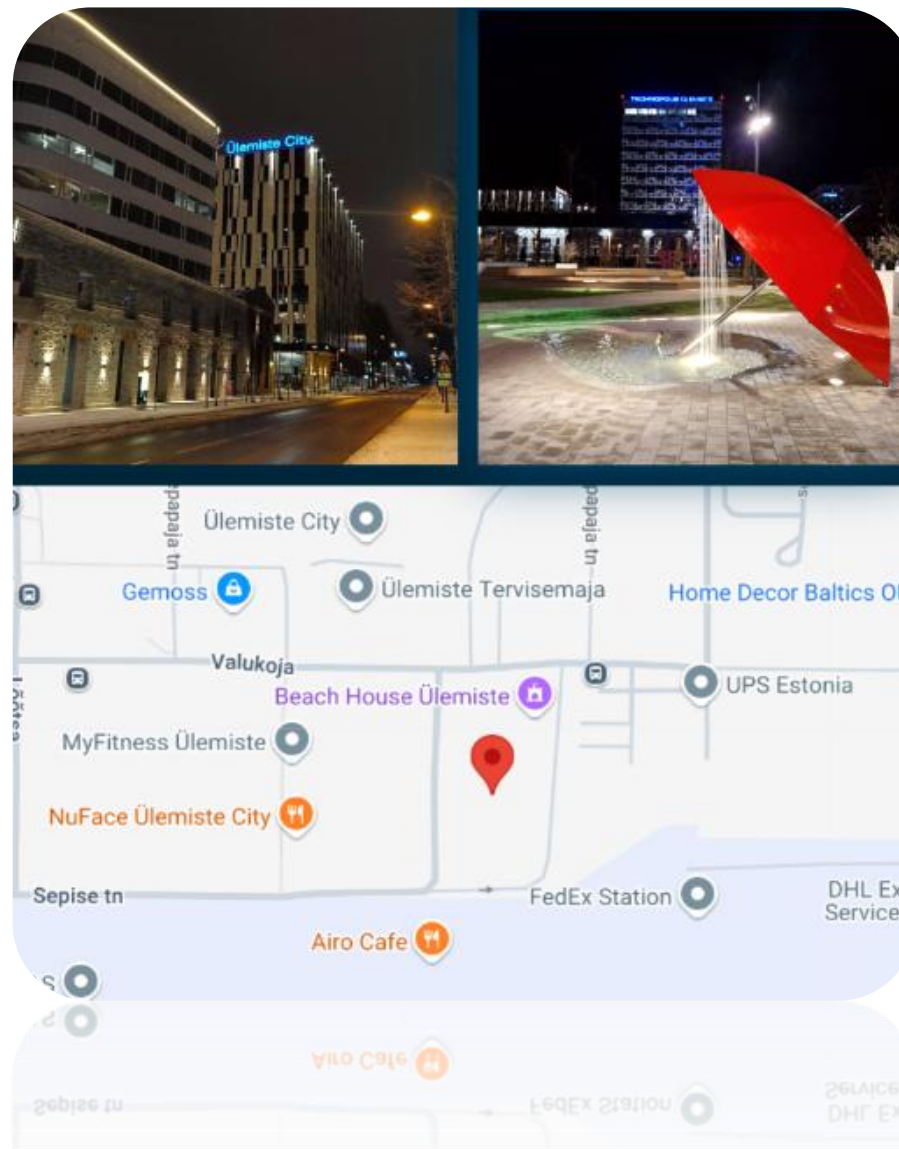
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PRECISION. RELIABILITY. PARTNERSHIP.







THANK YOU FOR  
YOUR ATTENTION!