



# ERITECH

TECHNOLOGICKÉ SYSTÉMY A ZAŘÍZENÍ PRO  
OPTIMÁLNÍ VYUŽITÍ SUROVIN A REDUKCI CO<sub>2</sub>





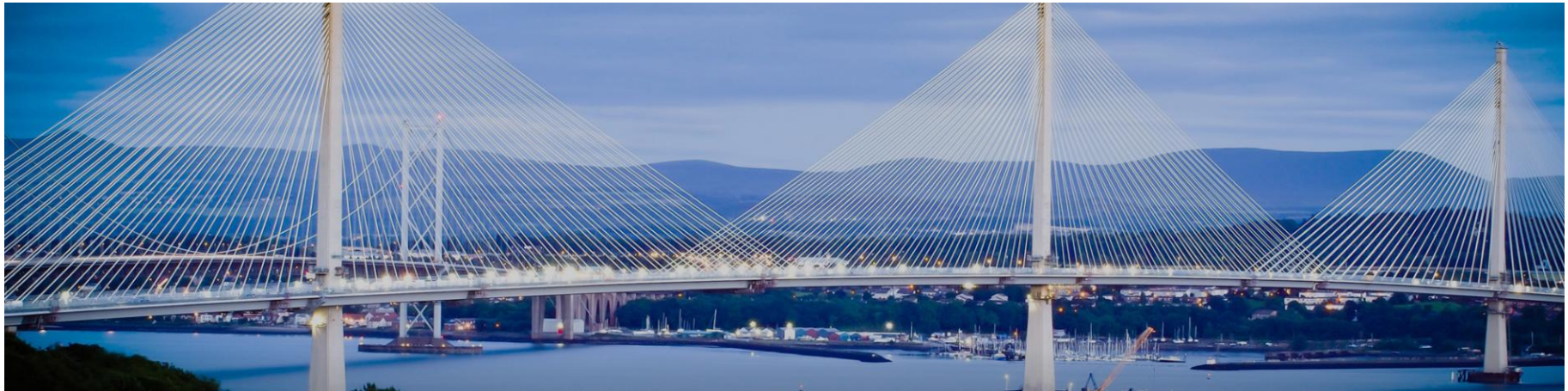
# THREE PILLARS OF ERITECH



ENGINEERING

EPC SUPPLIER

MACHINE DESIGN



Engineering & Design of the projects focused on the supply of the technology systems for the industrial processes, construction, civil engineering

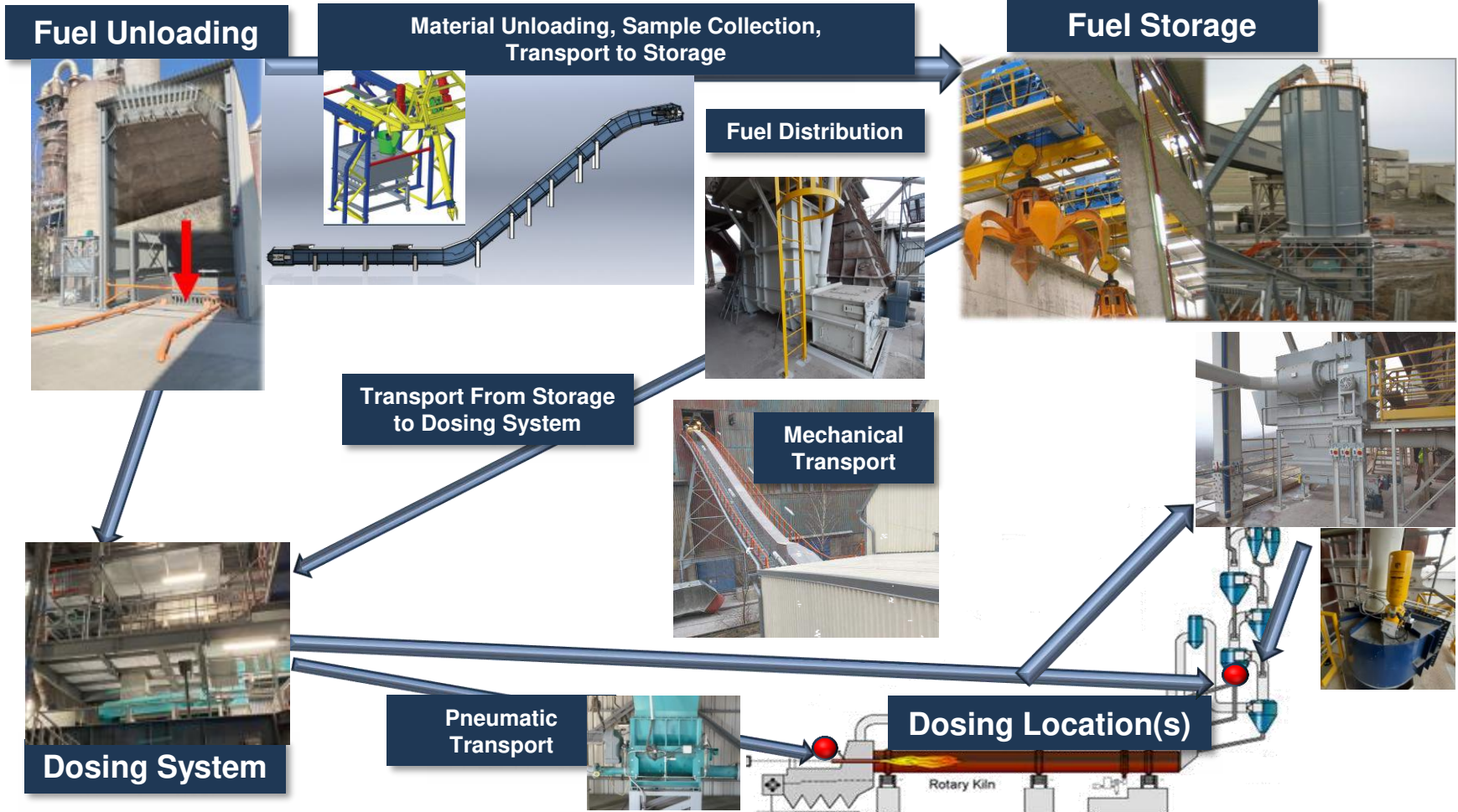
Technology supplier and EPC projects by a team of highly experienced project managers & engineers, Close cooperation with reputable and market established partners

Engineering & Design for unique and tailor-made systems / products

EFFECTIVE RECYCLING INNOVATIVE TECHNOLOGY

# EFFICIENT GENERAL CONTRACTOR

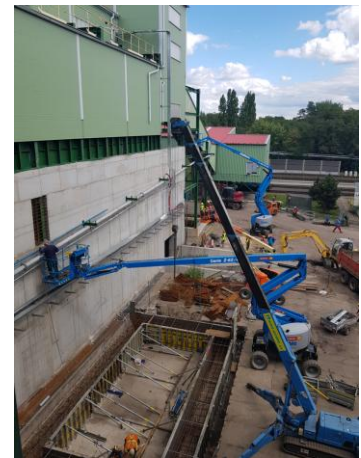
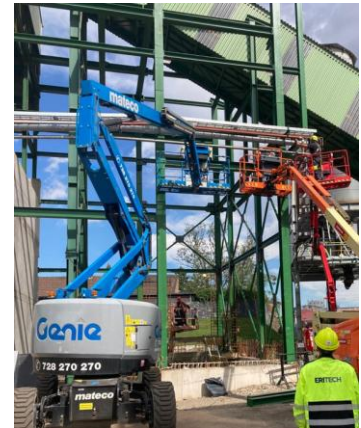
## EQUIPMENT FROM TRUCK TO COMBUSTION PROCESS



# EFFECTIVE EPC SUPPLIER

DELIVERY OF COMPLETE SYSTEM, INCLUDING CONSTRUCTION

AUTOMATIC FIRE & EXPLOSION PROTECTION INCLUDED



EFFECTIVE RECYCLING INNOVATIVE TECHNOLOGY

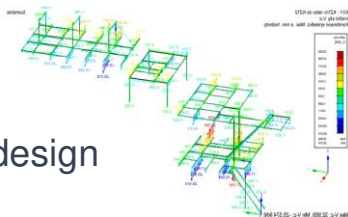
# ENGINEERING COOPERATION

## OTHER ENGINEERING SERVICES



### Static engineering

Optimized  
Structure design

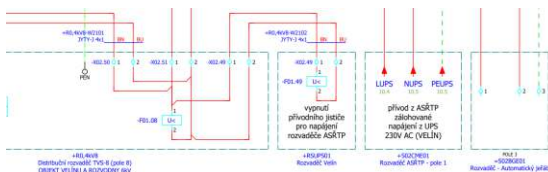


### Geotechnical Engineering

Soil Analysis



### Electrical engineering



### Laboratory services

analysis &  
tests



### Civil works engineering

Civil works design  
Concrete structures  
Foundation  
Access roads



### Waste processing Engineering

Waste sorting  
Biodegradation  
Stabilization  
and neutralization



Fire protection  
engineering

ATEX analysis

Noise assessment

EIA study

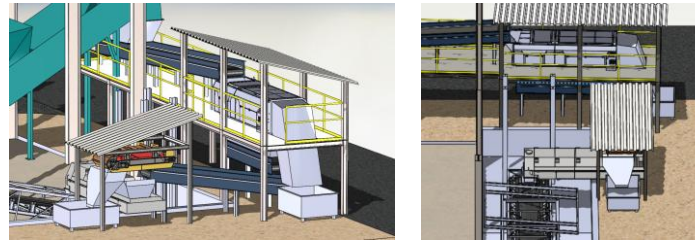


# ENGINEERING COOPERATION PROJECT ENGINEERING



## Managed services

- Conceptional analysis & proposal
- Arrangement proposal
- Process calculation analysis
- Machine parameters calculation
- Conveyors parameters calculation
- Pneumatic pipeline calculation



Základní varianta 1.

Instalovaný výkon  $P_i = 55$  [kW]. Rozběhový faktor  $r_f = 1.500$

Varianta 1: dopravované množství Qzd, zaplněný celý dopravník - výkon  $P_{zc} = 46$  [kW]

$T_1 = 74.33$  [kN]  $T_4 = 44.29$  [kN]

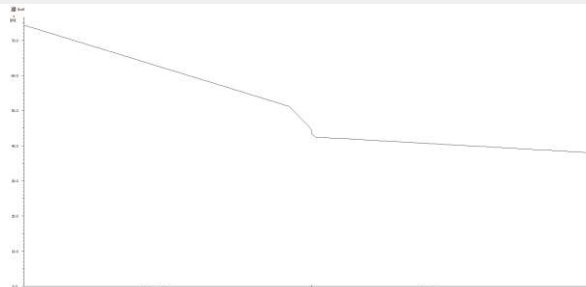
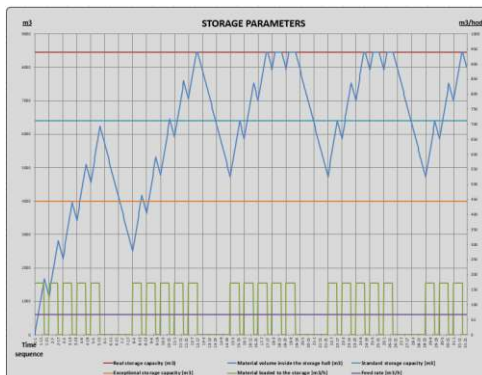
$T_2 = 37.52$  [kN]  $T_3 = 43.26$  [kN]

Napětí v pásu  $f_t = 62$  [N mm<sup>-1</sup>]

Napínací síla  $F_{nap} = 87.55$  [kN]

Dráha napínacího bubnu  $s_{bn} = 0.848$  [m]

Rozběh  $0.7$  [s] Doběh  $0.6$  [s]  $0.3$  [m]



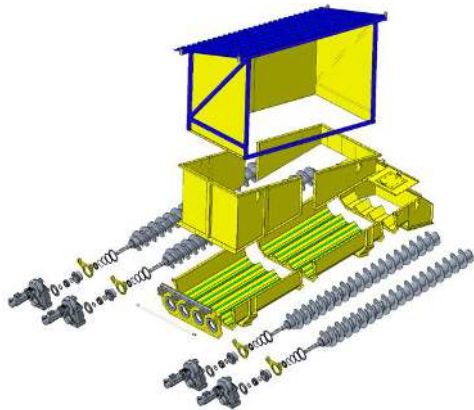
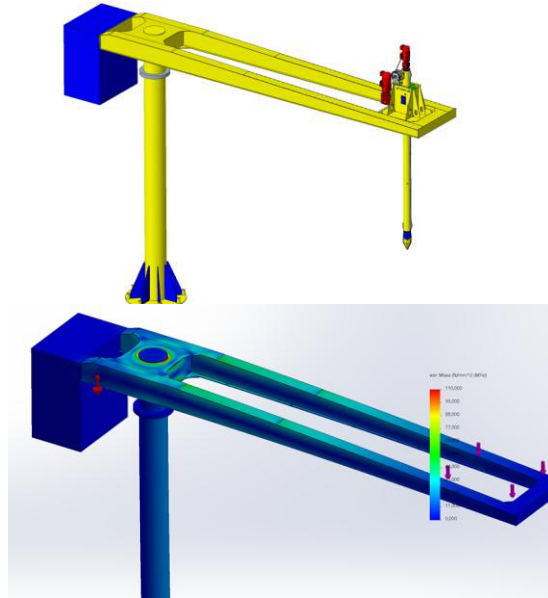
# ENGINEERING COOPERATION

## MECHANICAL ENGINEERING



### Managed services

- Tailor made machine engineering
- Stress analysis
- Machine parameters calculation
- Conveyors parameters calculation



Engineering

Technology

Solution

Results



# MACHINERY DESIGN

## RECEPTION HOPPER

### FLEXIBLE WITH THE DESIGN

- Different types of the discharging mechanism – screw, chain-belt, moving floor etc.
- Numerous functionalities – operation hopper, gravimetric-volumetric feeder, splitting hopper, sealing hopper

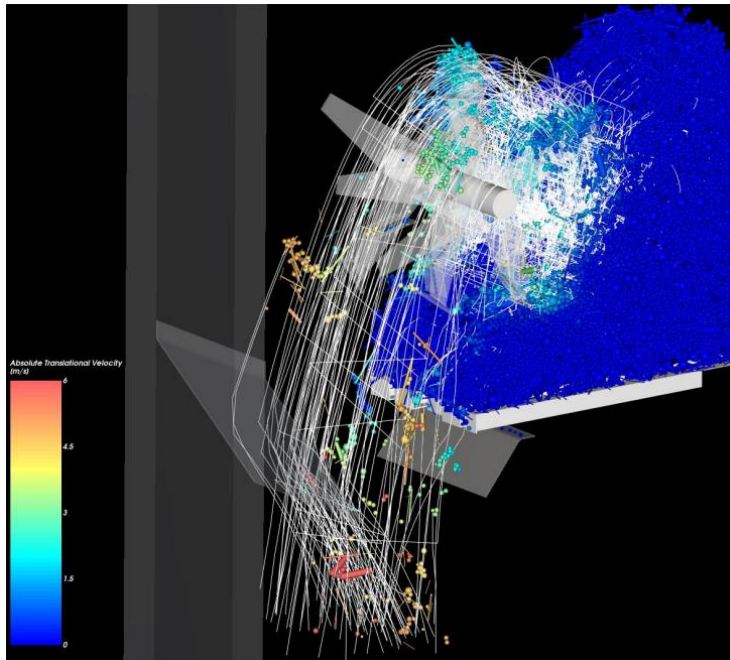
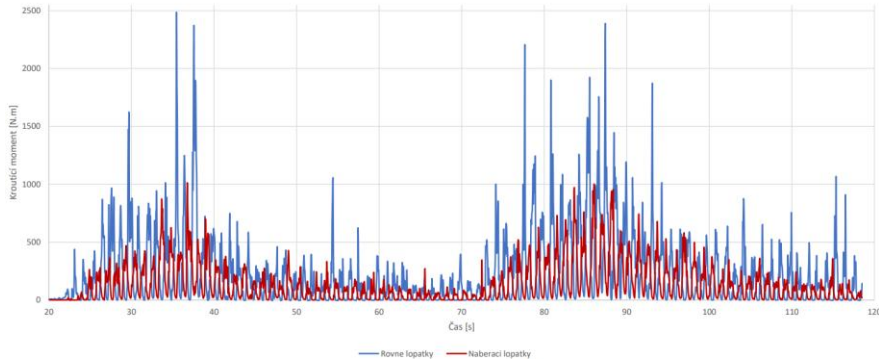


# MATERIAL RECEPTION TECHNOLOGY

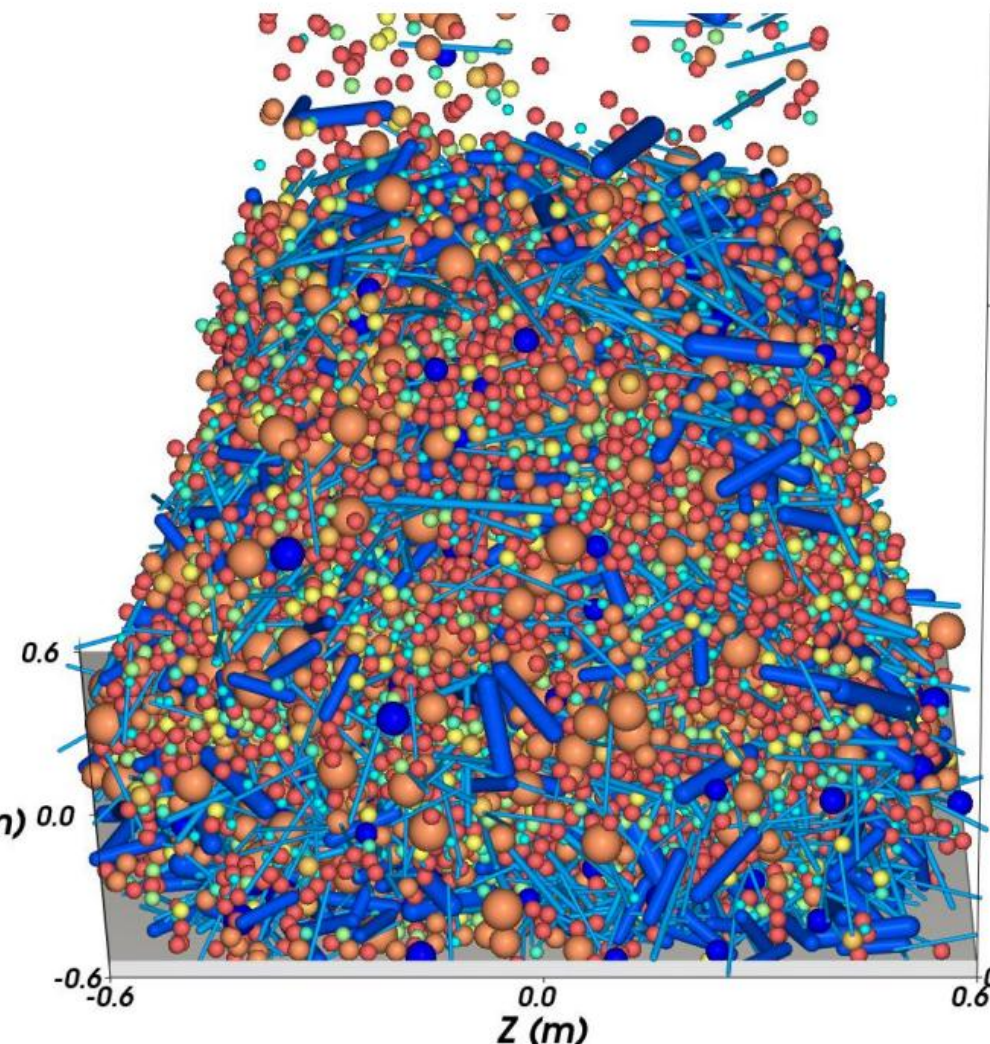
MATERIAL FLOW ANALYZING IS ESSENTIAL



Závislost kroutícího momentu na typu lopatky

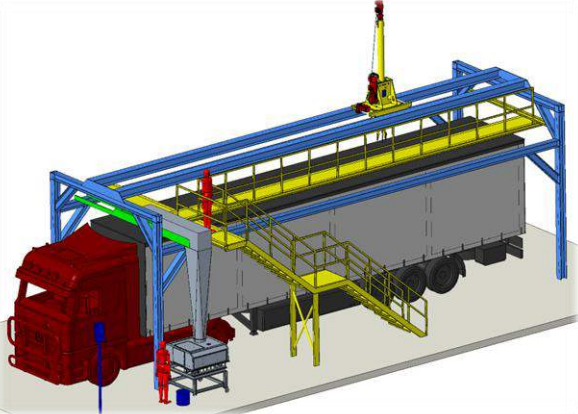


stepka\_2  
stepka  
X (m)  
y  
eva  
r

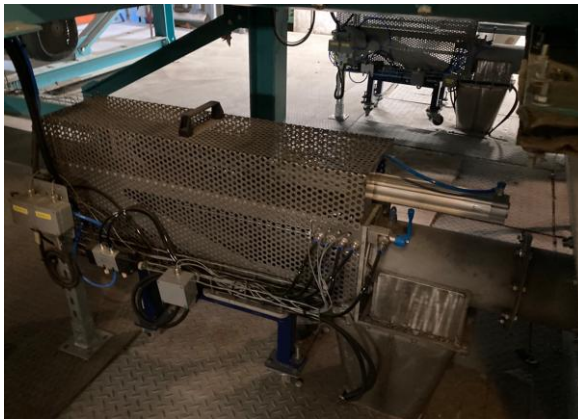
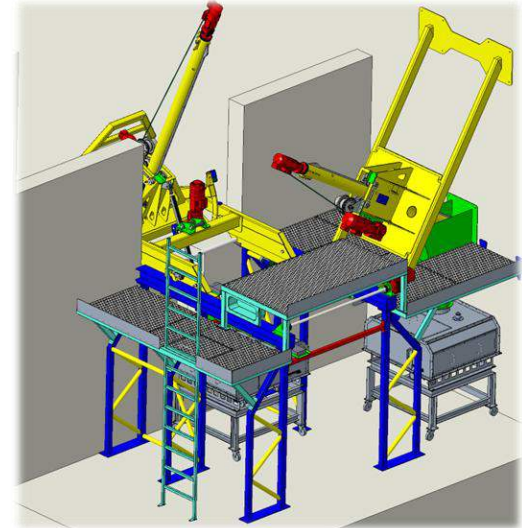


# AUTOMATED MATERIAL SAMPLING SYSTEMS

## DESIGN, MODELING & DELIVERY

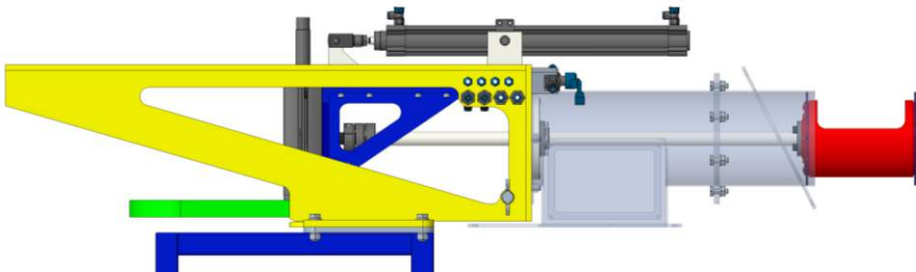


Material sampling from the truck reception –  
Directly from the truck  
Or from the unloading pit or  
from the walking floor hopper



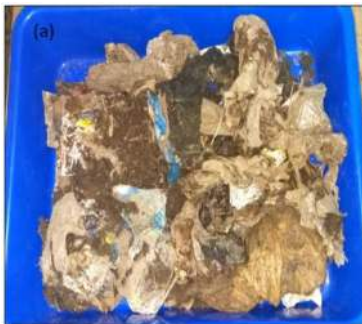
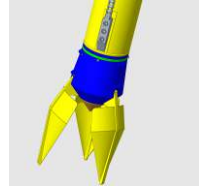
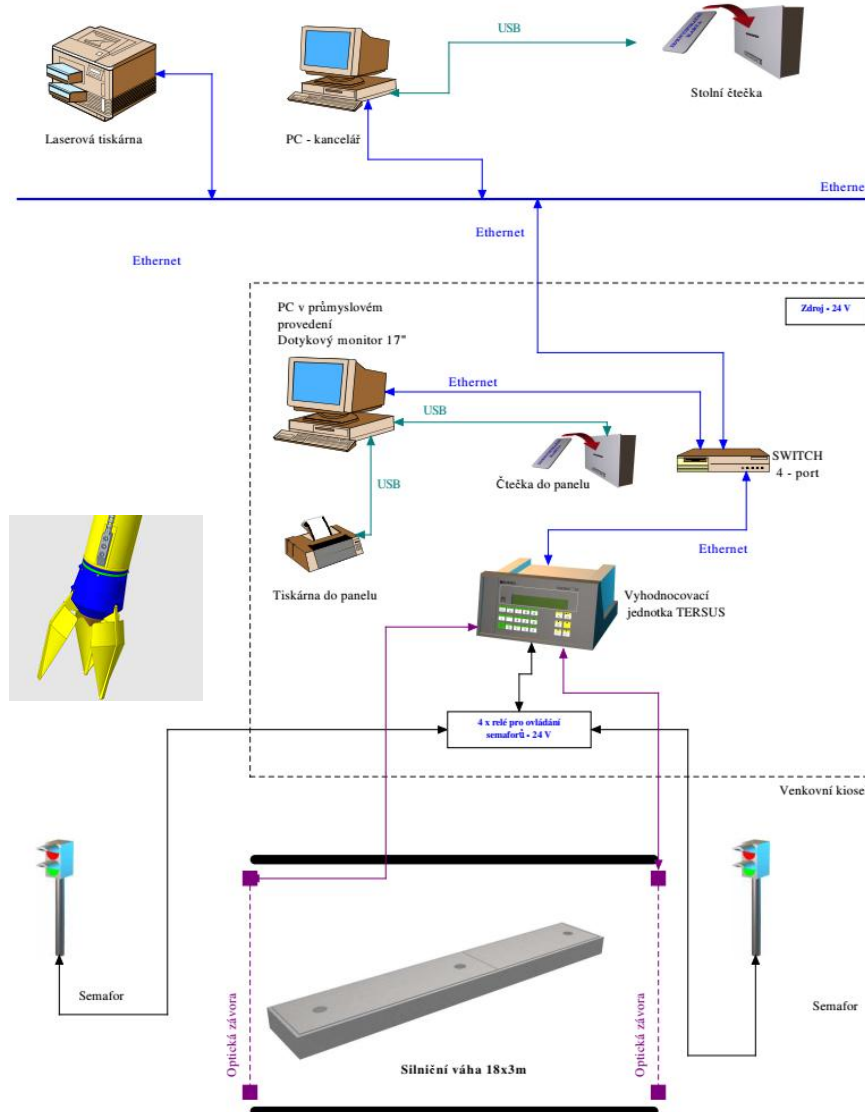
Material sampling from the  
equipment – conveying or  
feeding equipment

Sampling from  
the chute



# SMART LOGISTIC SYSTEM

Automated system to record and connect – incoming trucks + suppliers – weighing - automated sampling & connecting the materials with the parameters to the trucks + suppliers



# AUTOMATED CRANE

## CONTROL VISUALIZATION



3/9/2021 10:44:42 AM AUTO MODE

Last active alarm: \_\_\_\_\_

Program: Filling of hopper G1 --- Active step: Initialization step

**Servis position P1**

1	6	11	16	21	26	31	36	41	46	49	52	55
A1 11.00m	A6 10.00m	A11 16.00m	A16 13.00m	B1 60.00m	B6 65.00m	B11 59.00m	B16 66.00m	B21 27.50m	C1 70.00m	C4 75.00m	C7 88.00m	C10 90.00m
2	7	12	17	22	27	32	37	42	47	50	53	56
A2 50.00m	A7 10.00m	A12 8.00m	A17 12.00m	B2 68.00m	B7 72.00m	B12 66.00m	B17 72.00m	B22 85.00m	C2 70.00m	C5 78.00m	C8 82.00m	C11 85.00m
3	8	13	18	23	28	33	38	43	48	51	54	57
A3 27.50m	A8 9.00m	A13 15.00m	A18 27.50m	B3 75.00m	B8 80.00m	B13 72.00m	B18 80.00m	B23 70.00m	C3 70.00m	C6 73.00m	C9 75.00m	C12 75.00m
4	9	14	19	24	29	34	39	44	49	52	55	
A4 27.50m	A9 32.00m	A14 40.00m	A19 50.00m	B4 90.00m	B9 70.00m	B14 48.00m	B19 40.00m	B24 65.00m				
5	10	15	20	25	30	35	40	45				
A5 30.00m	A10 35.00m	A15 45.00m	A20 55.00m	B5 27.50m	B10 50.00m	B15 30.00m	B20 50.00m	B25 50.00m				

**Filling of hopper G1**

From: Zone A  Position: A3

Zone B  Deactivate

Zone C

**Filling of hopper G2**

From: Zone A  Position: A3

Zone B  Activate

Zone C

**Delivery of material S1**

To: Zone A  Position: A3

Zone B  Activate

Zone C

**Delivery of material S2**

To: Zone A  Position: A3

Zone B  Activate

Zone C

**Crane on the position A1**

Bridge position: 64 m

Trolley position: 33 m

Lift position: 0.00 m

Fluctuations: x: 0.00 m, y: 0.00 m

Weight: 68.0 kg

**Transfer of material in storage**

From: Zone A  Zone B  Zone C

To: Zone A  Zone B  Zone C

Activate

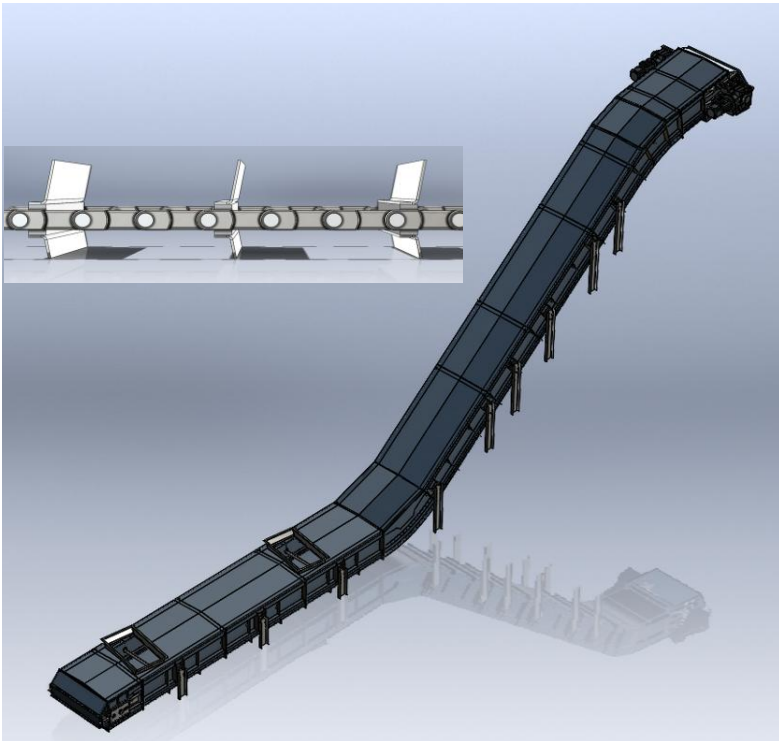
Position: From: A1 To: A3 Activate

Automated storing, discharging and effective logistic system



# TRANSPORT OF MATERIALS

## SCREW, CHAIN AND BELT CONVEYORS



EFFECTIVE RECYCLING INNOVATIVE TECHNOLOGY

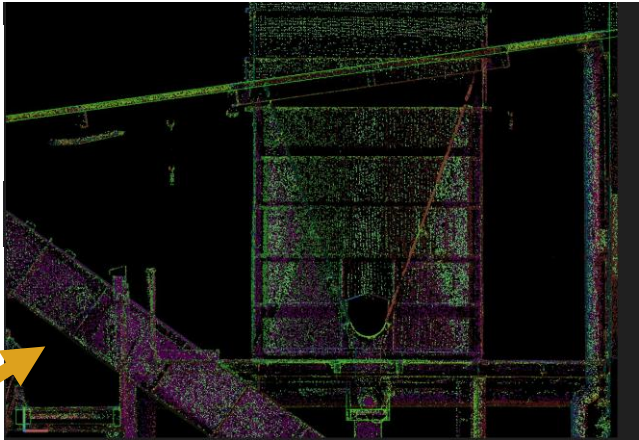
# RDF PROCESSING LINE

ECOWASTE ENERGY



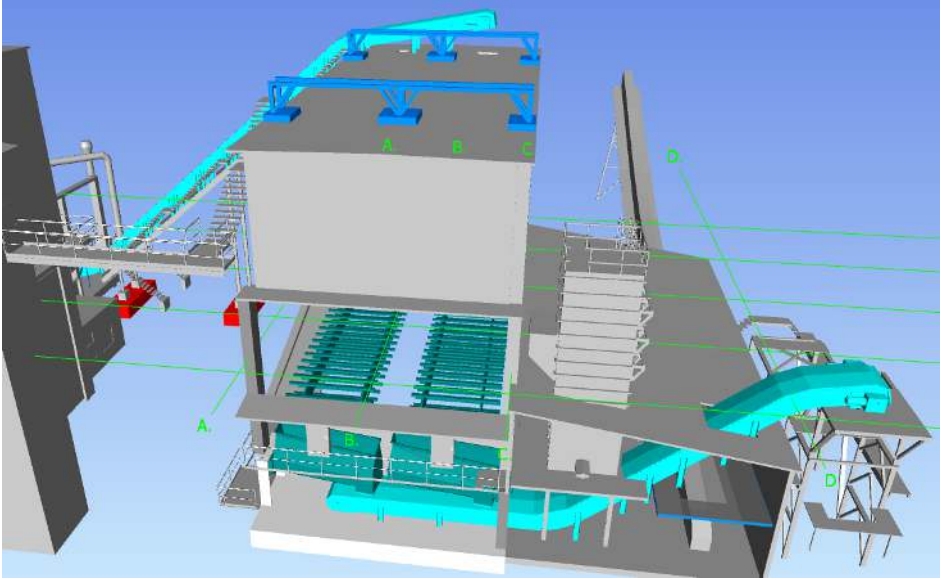
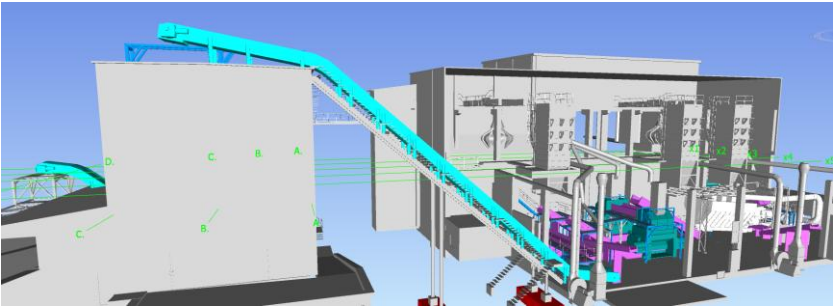
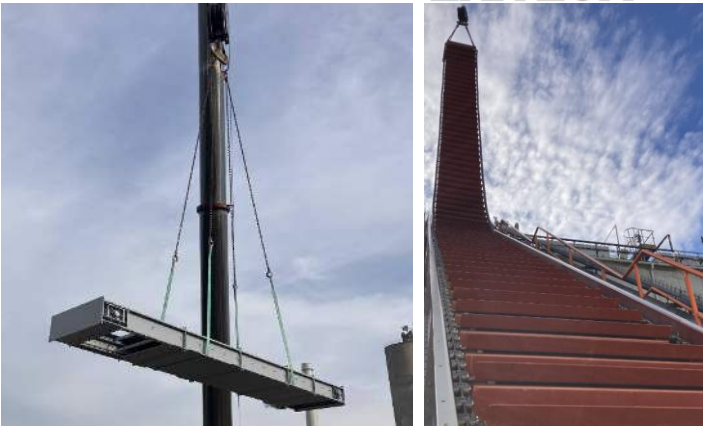
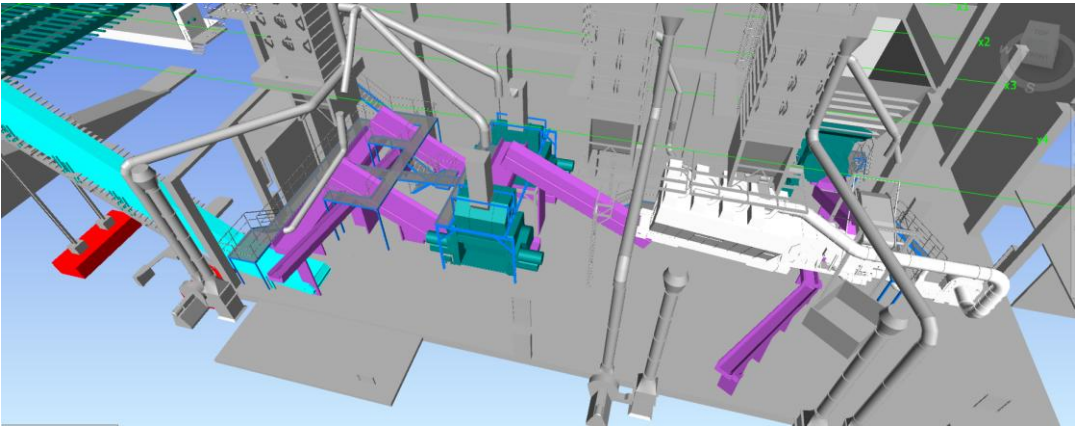
**Extremely limited space and time slot for the execution**

**Design started with the 3D scan of the existing processing hall**



# RDF PROCESSING LINE

ECOWASTE ENERGY



EFFECTIVE RECYCLING INNOVATIVE TECHNOLOGY

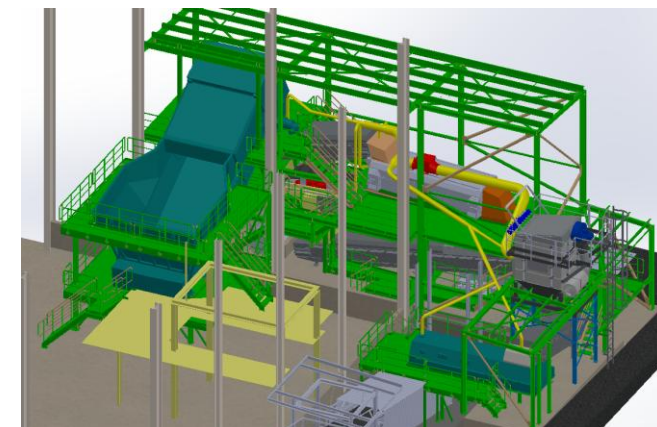
# RDF FEEDING – FALSE AIR SUCTION MINIMISING

HOLCIM Čížkovice - AirLock

Two parts of the project location

Both with the extremely limited space

Unique system for removing specific material



# MODERNIZATION OF FUEL STORAGE

Thermal Power Plant Kolín – Converting the storage building from coal bunkers to a modern biomass storage hall with automated crane during continuous operation



Original State



2023/02



# MODERNIZATION OF FUEL STORAGE





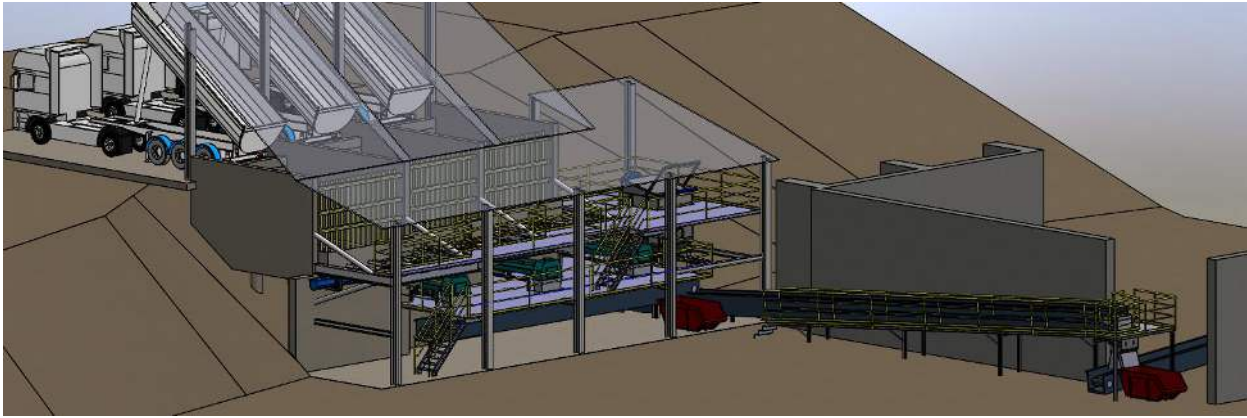
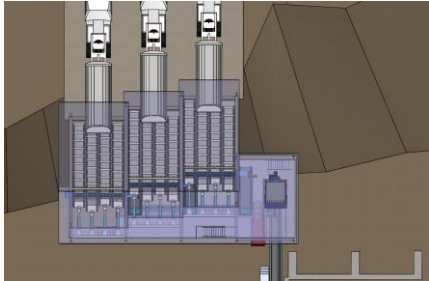
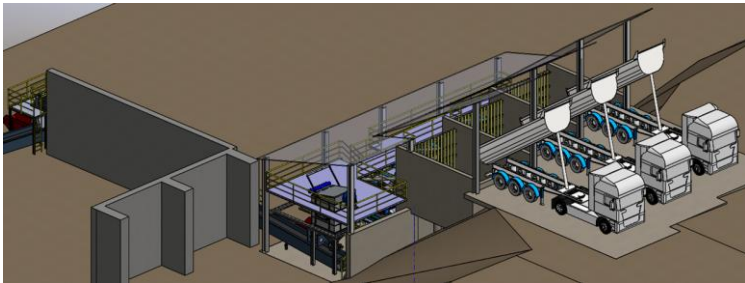
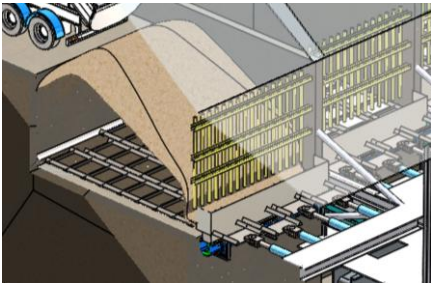
# ALTERNATIVE RAW MATERIAL STORAGE AND FEEDING

DESIGN & DELIVERY – CEMEX



# ALTERNATIVE RAW MATERIAL STORAGE AND FEEDING

DESIGN & DELIVERY – HOLCIM Čížkovice





**THANK YOU**

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