

ISKRA ISD GALVANIKA

Electroplating
solutions

Business unit presentation

ISKRA
ISD
TECHNOFUSION.



FUSION OF OUR
TECHNOLOGIES
FOR YOUR SMART
HYBRID SOLUTIONS.

ISD / General info

25.000

m² production space

75

**Years of
tradition**

60+

**Mil. EUR
turnover**

9

**Core
technologies**

500+ EMPLOYEES



BU Electroplating / General info



2.600m²

Surface treatment
production space

6

Surface
treatments

6

Galvanic
lines

8+

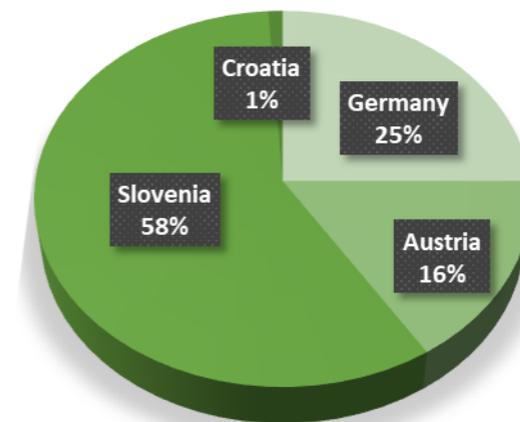
Mil. EUR
turnover

88+ EMPLOYEES IN SURFACE TREATMENT

Sales share



Sales share

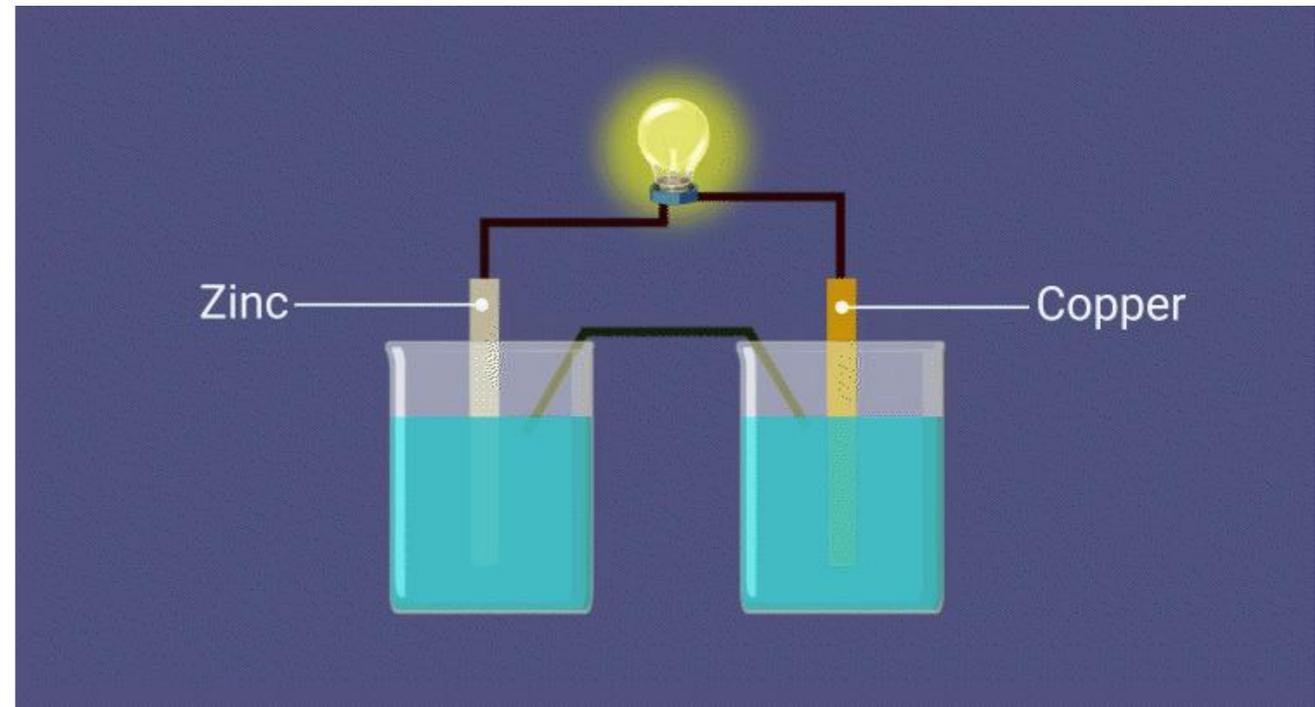


BU Electroplating / Where can you find us?



BU Electroplating / Electroplating process

- Protection against **red rust (Fe)** and **white rust (Zn)**
- Salt spray test
- Parameters: **electric current, T, pH, concentration, rinsing water quality**
- **Depositing on cathode** → anode loses mass – cathode gains mass



BU Electroplating / Technologies

BARRELS:

- **Shattered parts, smaller surface**
- Various perforation → **different part dimensions**
(screws, springs, rings, pistons, washers, hooks etc.)
- **Competitive price** due to higher filling
- Capacities from **20-100kg** per barrel
- Daily capacities of **6t**
- **Zn, ZnNi, ZnPh, Ni, Sn, SnPb**

RACKS:

- **Branched parts, bigger surface**
- Advanced rack designs (specific) → **high homogeneity** of electrolyte deposit, high quality **visual effect**
- **Price can be adjusted** by individual rack design
- Dimension of baths: **2,5m x 1,5m x 0,4m**
- Daily capacities of **1.000 sqm**
- **Zn, ZnNi (+KTL – external partner), ZnPh**



BU Electroplating / Technologies

Zn:

- **Good** protection towards **red rust**
(up to **336h** salt spray chamber)
- Passivation and sealer recommended for higher protection towards **white rust**
(up to **168h** salt spray chamber)
- Finishing post treatments (passivations) available in **blue, black, thick variant**
- **Organic or anorganic sealer** optional
- Layer thickness **between 8 and 15 microns**



BU Electroplating / Technologies

ZnNi:

- **High** protection towards **red rust**
(up to **1000h** salt spray chamber)
- Passivation and sealer recommended for higher protection towards **white rust**
(up to **270h** salt spray chamber)
- Finishing post treatments (passivations) available in **blue, black, transparent variant**
- **Organic or anorganic sealer** optional
- Layer thickness **between 5 and 10 microns**
- **High temperature resistance – up to 180°C**
(suitable for automotive industry)
- Option duplex coating with **KTL**
(**15-40 microns** thickness) – **adding to corrosion resistance, uniform colour**



BU Electroplating / Technologies

Ni:

- Protection towards **red rust** (up to **120h** salt spray chamber)
- **Acids, sea water or alkaline solutions resistance**
- Tribological benefits – **wear resistance, slipperiness** (popular in furniture industry, universally applicable)
- **Post treatment (oil)** optional
- Layer thickness **between 2 and 12 microns**



Sn:

- Protection towards **red rust** (up to **240h** salt spray chamber)
- **Flexible coating, excellent solderability and lubricity** (suitable for electroindustry, automotive pistons, wires, pump parts)
- Layer thickness **between 2 and 10 microns**



ZnPh:

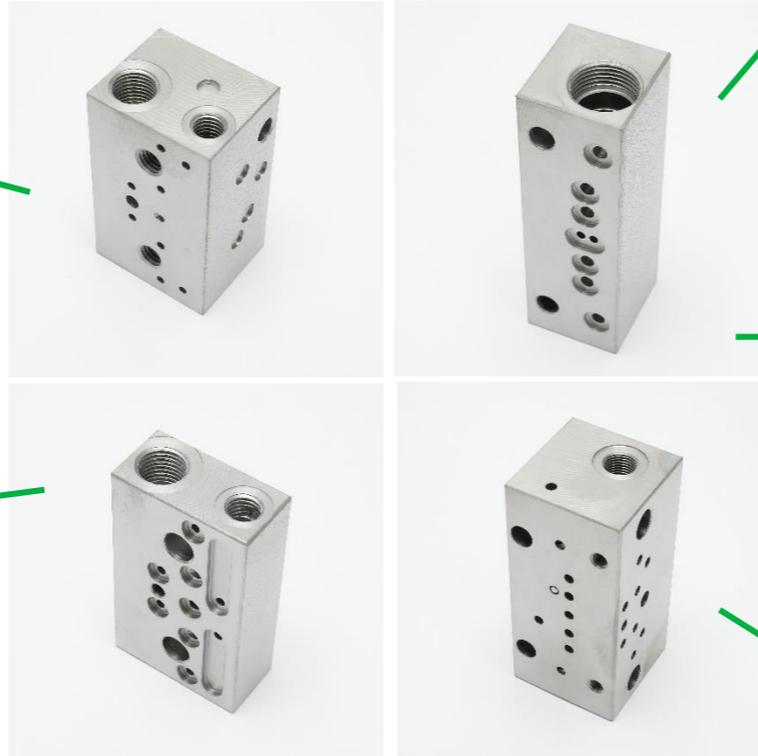
- **Interphase protection** (temporary corrosion resistance)
- Suitable for **further coating applications** due to promotion of **adhesion** for subsequent colour coating (powder coating)
- **Post treatment (oil)** optional
- Coating **between 2 and 6g / sqm**
- Non-galvanic process



BU Electroplating / Hydraulic manifold blocks

✓ **Avoiding rust inside the holes** (adjusted drying process)

✓ **Uniform layer thickness** (ZnNi)



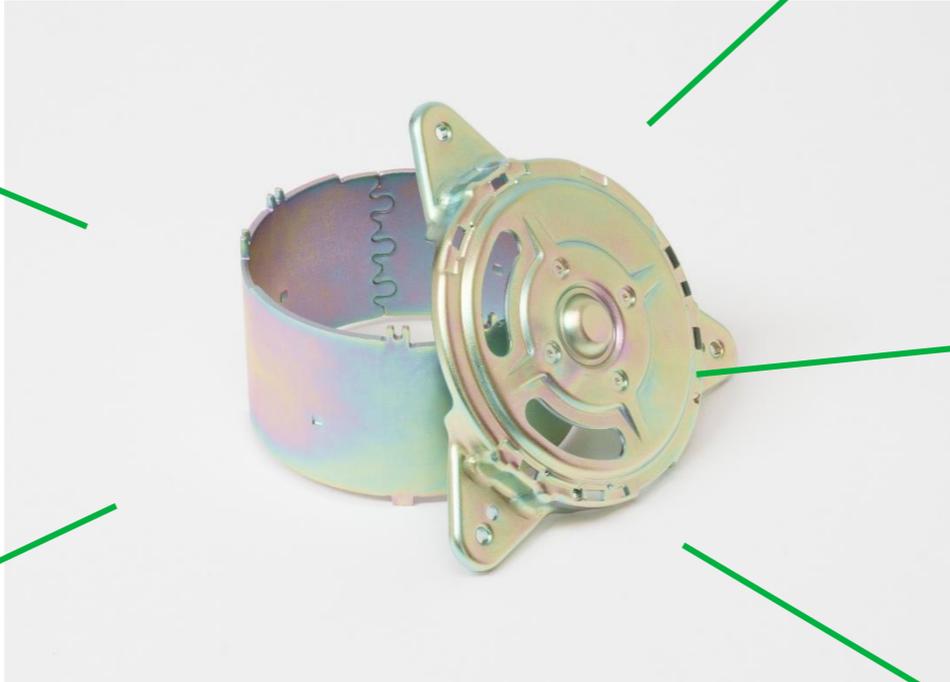
✓ **Salt spray tests** (provided on site)

✓ **Specific rack design**
(rotating technology)

✓ **Avoiding leakages**

(using drainage additives, adjusted drying process)

BU Electroplating / Motor housings



- ✓ **Uniform layer thickness** (ZnNi)
- ✓ **Surface protection outside and inside the housing**
(adjusted inclination during process)
- ✓ **Salt spray tests** (provided on site)
- ✓ **Specific rack design** (nearly invisible contact marks)
- ✓ **Achieving cleanliness and surface tension requirements**
(high quality rinsing from the electroplating process know-how)

BU Electroplating / Shafts & Gears

✓ **Uniform layer thickness**
(ZnNi)



✓ **Surface protection inside the holes** → 3-5mm
(using chemicals with depth effect)



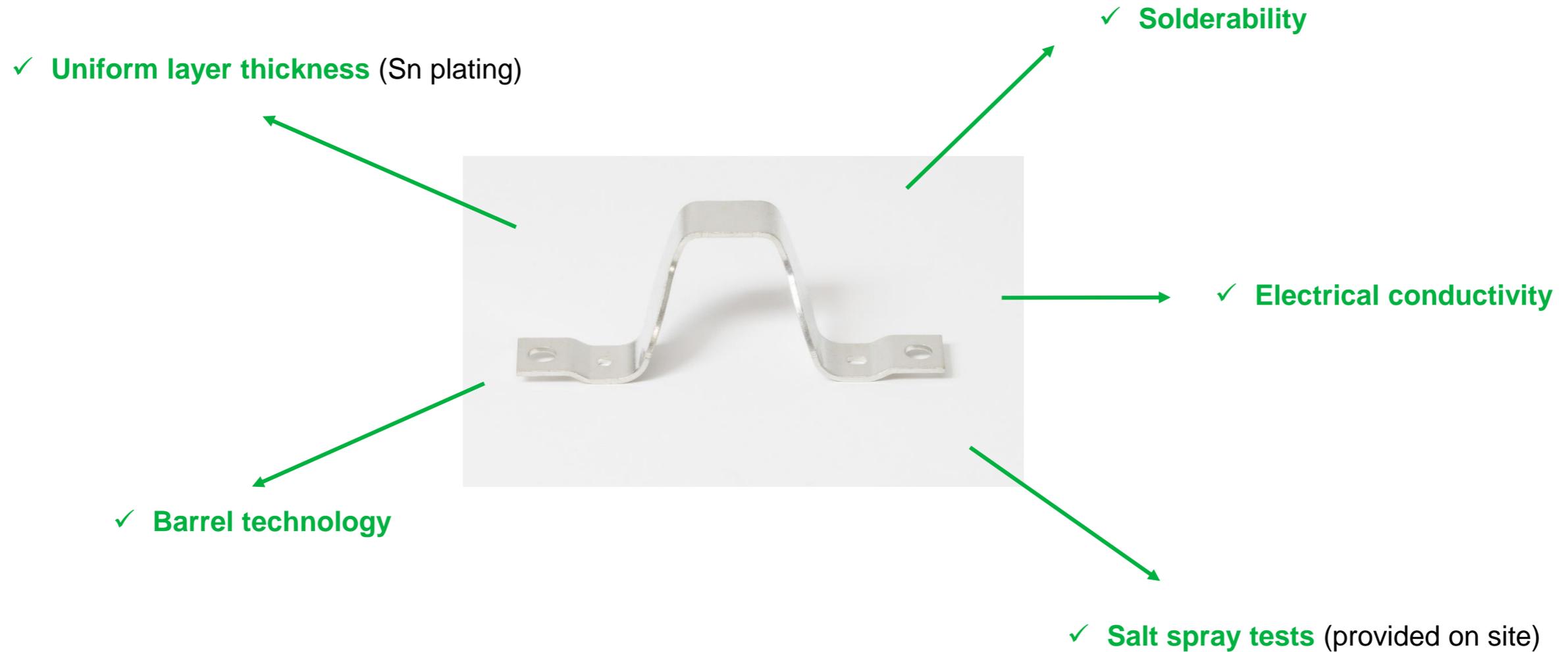
✓ **Salt spray tests** (provided on site)



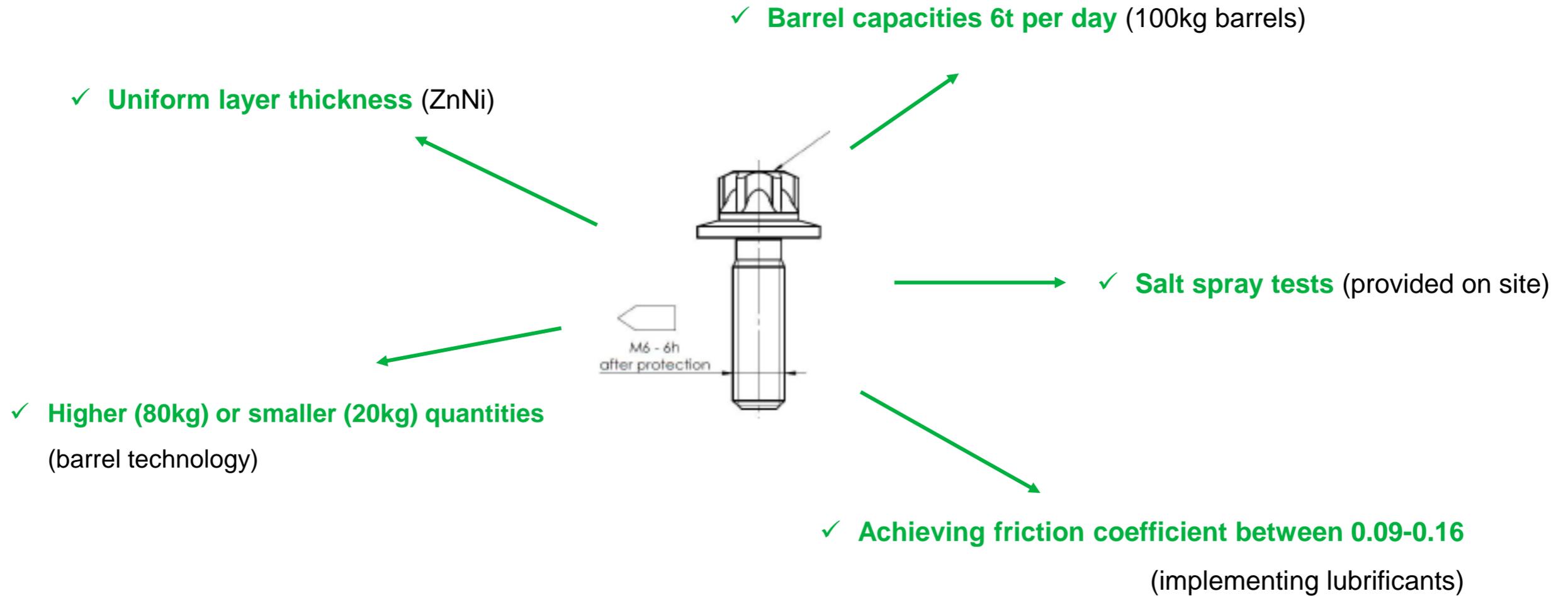
✓ **Specific rack design** (rotating technology)

✓ **Achieving high corrosion resistance requirements**
(using high quality chemicals)

BU Electroplating / Busbars for e-mobility applications

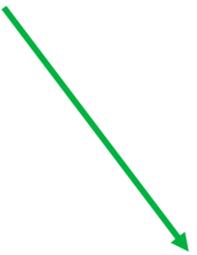
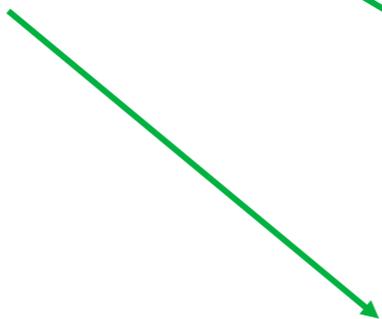


BU Electroplating / Screws & other fasteners



BU Electroplating / Process control equipment

- **XRF** machines (Oxford, Hitachi, Fischer)
- **AAS** (Atomic Absorption Spectroscopy)
- **Laboratory** for daily titrations, thermo shock tests, surface tension tests
- **Salt spray chamber**
- **K-alpha**



ISD / Research & development



RESEARCH FIELDS AND OUR ACADEMIC PARTNERS



FUSION OF MATERIALS WITH
NO CHEMICAL ADHESION



Univerza v Ljubljani
Naravoslovnotehniška fakulteta



DEVELOPMENT OF NEW MATERIALS



Univerza v Ljubljani
Naravoslovnotehniška fakulteta



DEVELOPMENT OF NEW COATINGS



Thank you for trusting us!



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