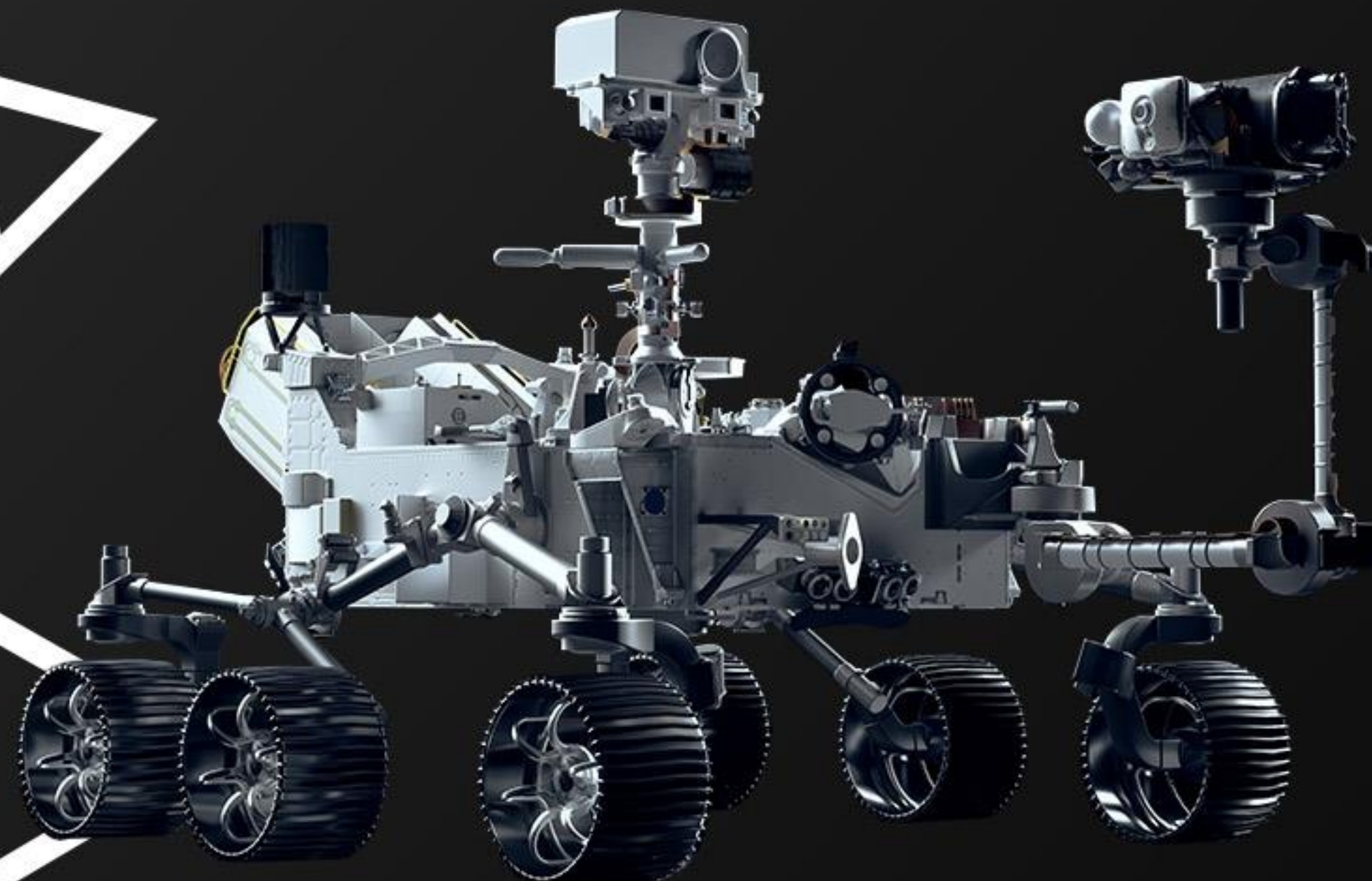


# KEY DIGITAL TECHNOLOGIES IN SLOVAKIA

„Energy efficiency enabled by ESBS“  
Vienna, 19.10.2022



Assoc. prof. Martin Donoval

# SLOVAK DIGITAL TECHNOLOGIES

## STRENGTHS AND WEAKNESSES IN A NUTSHELL

### Strengths

- IT industry
- Automotive industry
- Electrotechnical industry
- Chemical industry
- Geographic location
- Availability of qualified workforce
- Technical background

### Weaknesses

- Semiconductor industry
- Poor tech-transfer
- Lack of high-added value R&D companies
- Industry based more on manufacturing
- Poor in space industry

# SLOVAK DIGITAL TECHNOLOGIES

## STRENGTHS AND WEAKNESSES IN A NUTSHELL

### Strengths

- IT industry
- Automotive industry
- Electrical industry
- IT services
- Chemical industry
- Geographic location
- Availability of qualified workforce
- Technical background

### Weaknesses

- Semiconductor industry
- Poor tech-transfer
- Low R&D investment
- Industry based more on manufacturing
- Space industry

**The main driver of SK economy is  
AUTOMOTIVE**

**KIA MOTORS**  
3400+ employees  
300 000+ cars  
manufactured each year

**JAGUAR LAND ROVER**  
4500+ employees  
100 000+ cars  
manufactured each year

**VOLKSWAGEN**  
11 000+ employees  
310 000+ cars  
manufactured each  
year

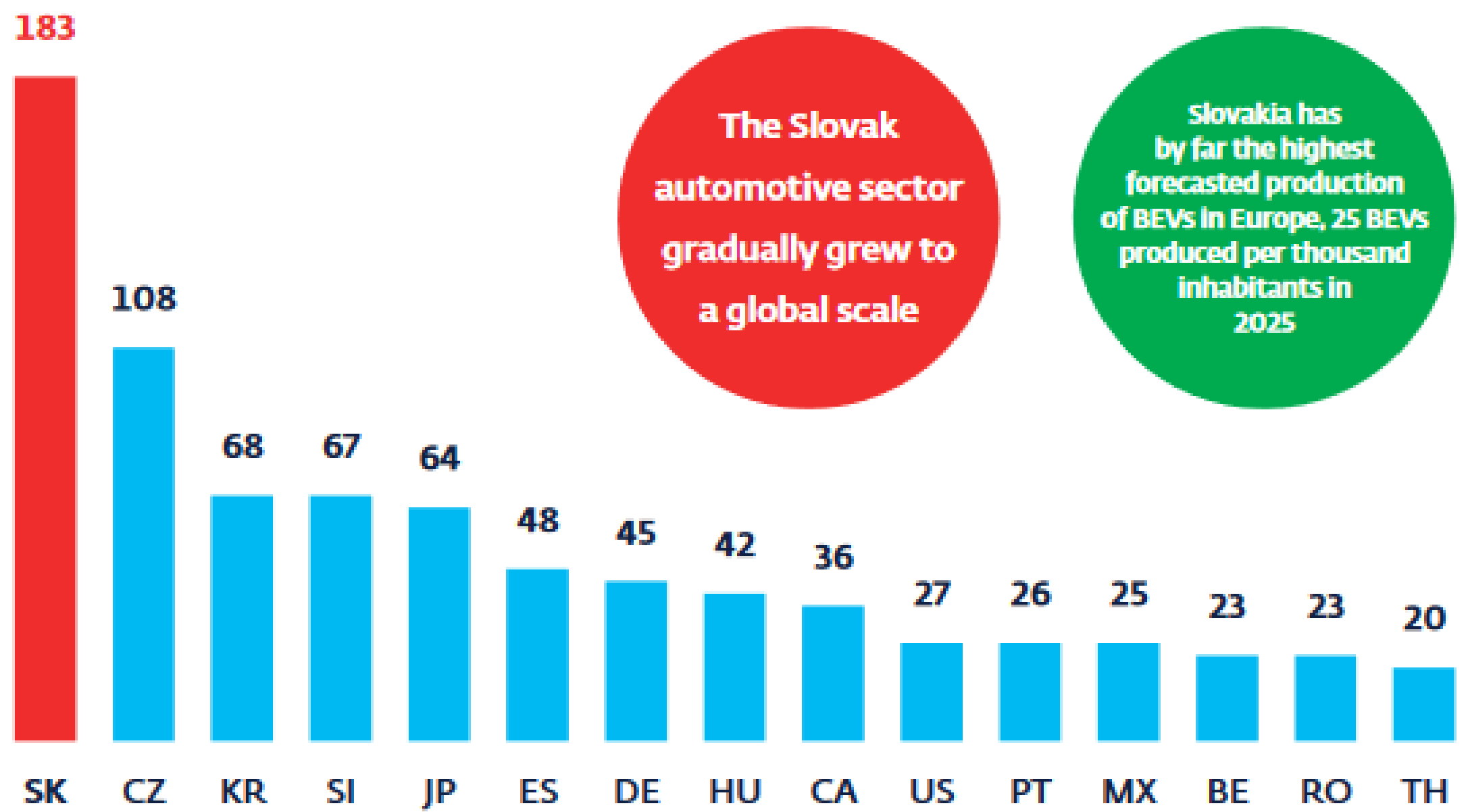
**VOLVO CARS**  
In 2026

**STELLANTIS**  
4500+ employees  
330 000+ cars  
manufactured each year



VIENNA

BRATISLAVA



# Leader in World Car Production Per Capita

**All 4 carmakers are planning to produce EVs at large scale in 2025**

**164,000**

People employed directly by the 4 car producers & Tier 1 suppliers

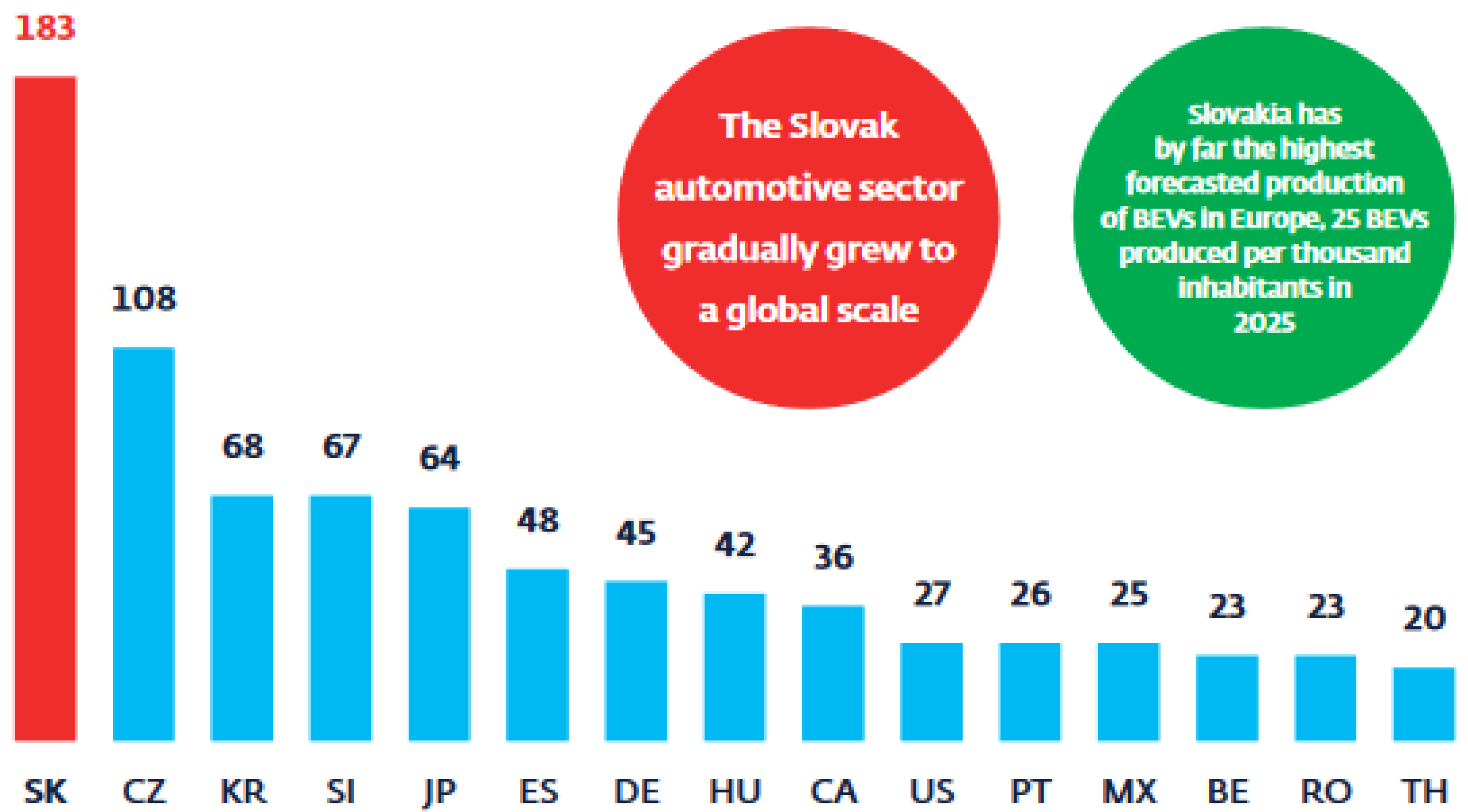
**245,000**

People employed directly & indirectly by the automotive industry

**11**

Electric & Plug-in Hybrid Electric models being produced in Slovakia — 2 BEV & 9 PHEV\*

\*Note: PHEV: Plug-In Hybrid Electric Vehicle, BEV: Battery Electric Vehicle;



The Slovak automotive sector gradually grew to a global scale

Slovakia has by far the highest forecasted production of BEVs in Europe, 25 BEVs produced per thousand inhabitants in 2025

All 4 carmakers are planning to produce EVs at large scale in 2025

# Leader in World Car Production Per Capita

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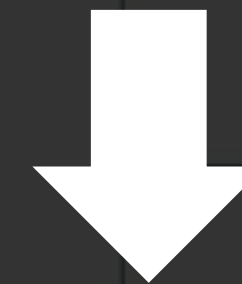
# Success Stories in automotive R&D



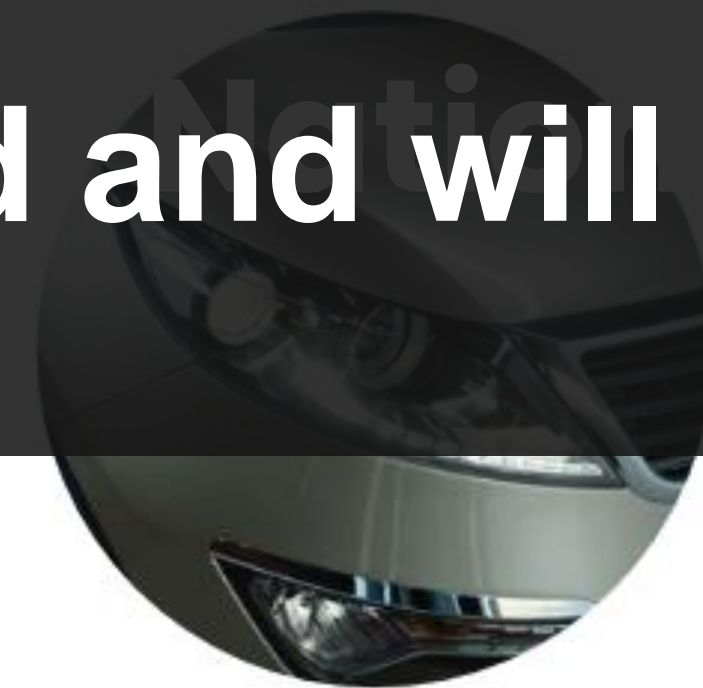
**EU agrees (in 2021) to end sales of combustion engine vehicles by 2035**

ZF SLOVAKIA  
R&D centre developing hybrid modules  
and mechanical components linked to  
e-mobility

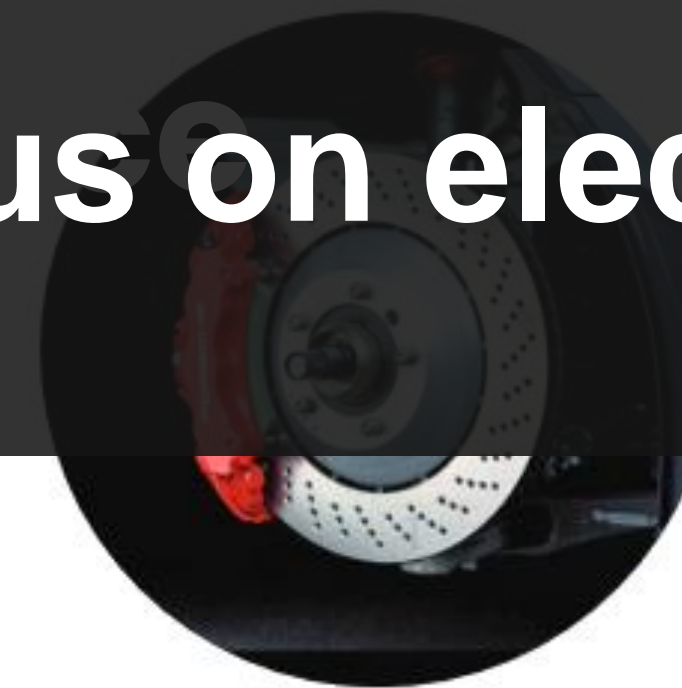
ZF SLOVAKIA  
Development of electric motors  
for e-mobility



**SK should and will strongly focus on electromobility**



**ZKW**  
Development of lighting systems



**CONTINENTAL AUTOMOTIVE SYSTEMS**  
Development of brake calipers

# E-Mobility sector



## **ELECTRIC MOTORS & COMPONENTS**

BSH Drives and Pumps, Eiben, Elektrokarbon, Sisme, Slovres, ZF Active Safety, VEM, Mobility & Innovation



## **CHARGING STATIONS**

GreenWay Infrastructure, Ejoin



## **BATTERY/CHARGING COMPONENTS**

Panasonic, Intercable, InoBat  
Van Doren Engineers, NES, Voltia  
Automotive, Webasto Convertibles, Tirn  
Technology, MACH Trade, InoBat, NEXPLUS

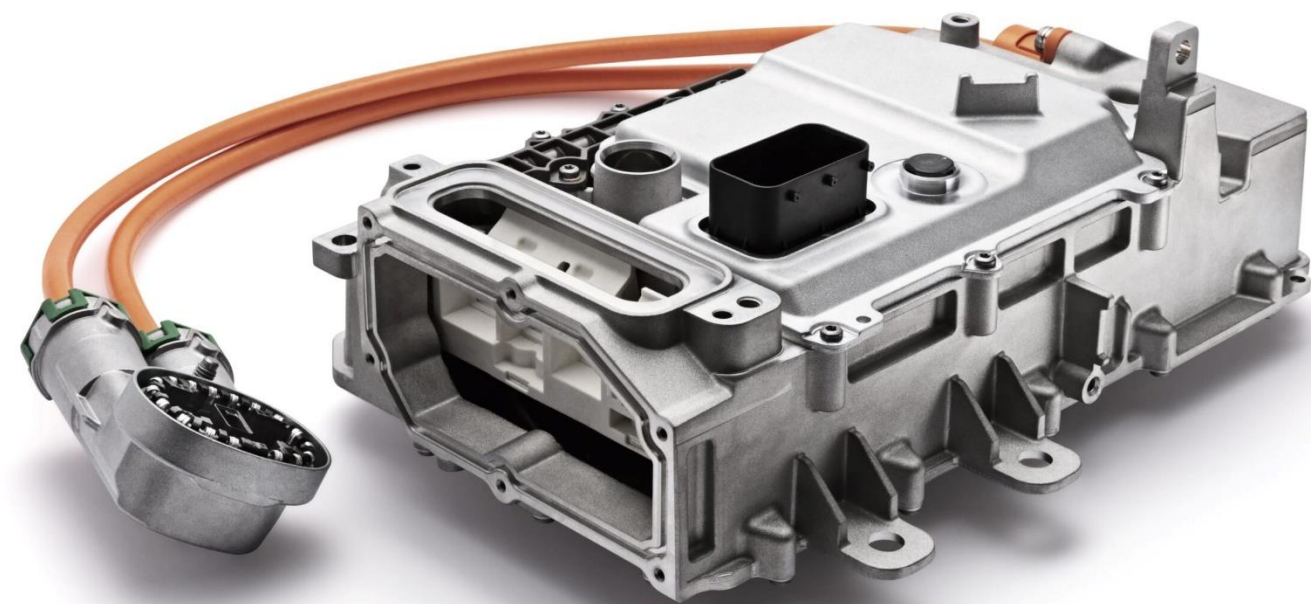


## **MACHINERY & EQUIPMENT COMPONENTS**

U.S. Steel,  
Transmisie Engineering



# Slovakia and KDT



**Governmental support of R&D of ECS in field of automotive**



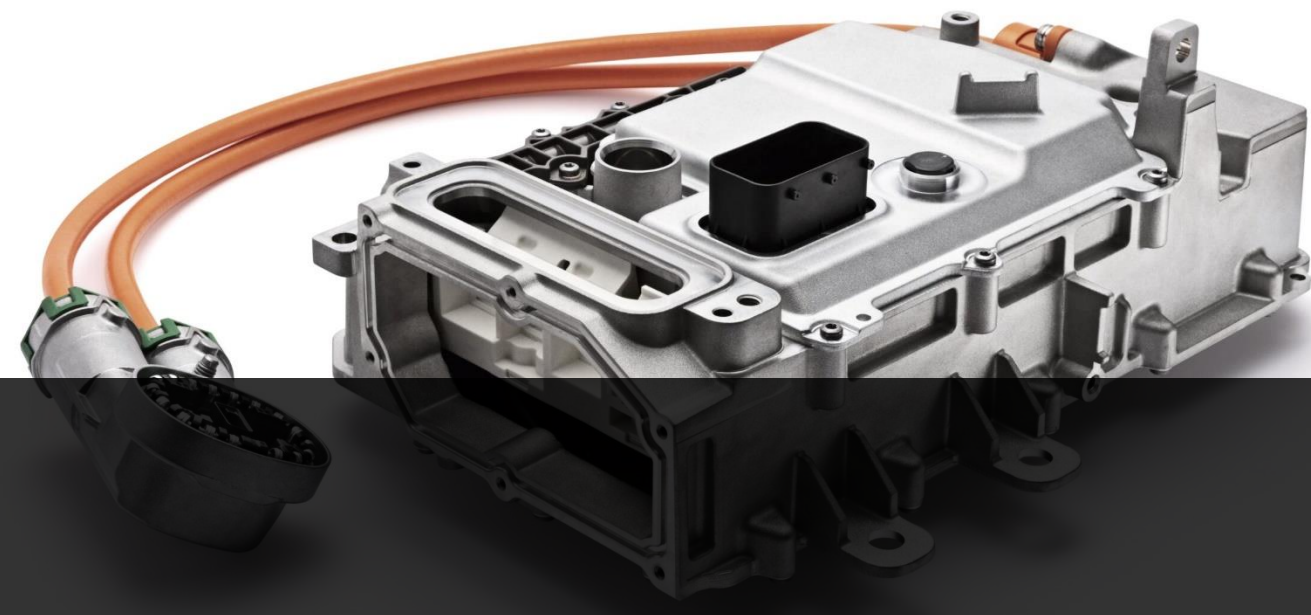
**National Competence centers**

**Chips JU support**

- **Electric vehicles**
- **Drivetrains**
- **Smart mobility systems**
- **Energetics**

# Slovakia and KDT

**Governmental support of R&D of ECS in field of automotive**

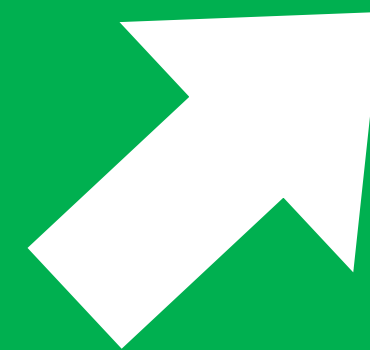


**Slovak Republic is supporting Chip JU and Chips act and will support establishment of new Competence center with focus on devices used to manage electric drive systems - inverters, converters etc.**

National competence centers

- Electric vehicles
- Drivetrains
- Smart

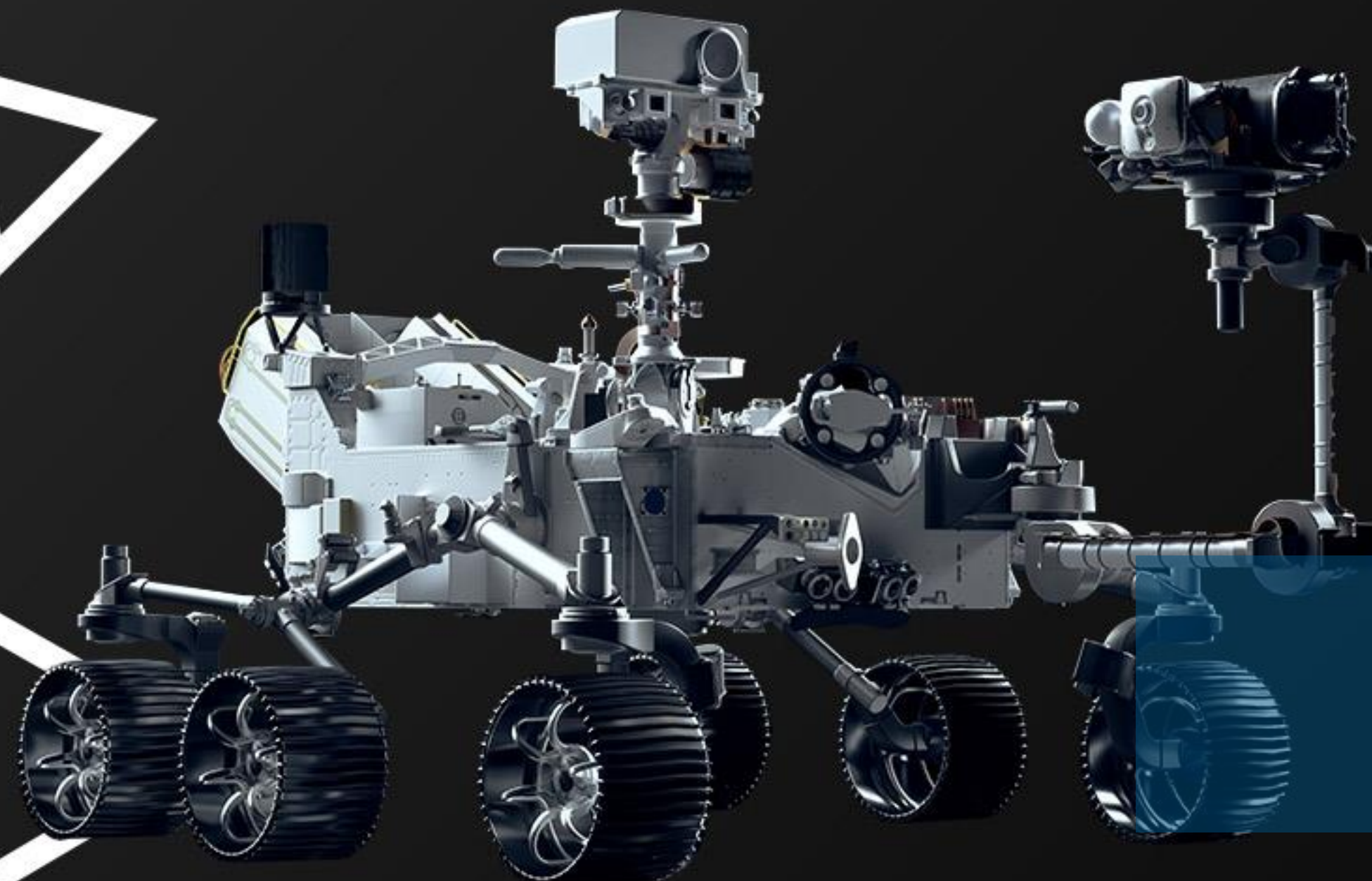
**Chips JU support**



- **mobility systems**
- **Energetics**

# FUTURE OF THE (KDT) INDUSTRY IN SLOVAKIA IS IN ELECTROMOBILITY

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