



# **CZECH TURKEY BUSINESS FORUM**

16 May 2016 / Ministry of Foreign Affairs, Prague

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#### Welcome Speeches

- Martin TLAPA
  Deputy Minister of Foreign Affairs of the Czech Republic
- Richard HLAVATÝ Director of Department, Ministry of Industry and Trade of the Czech Republic
- Ziya Burhanettin GÜVENÇ Chairman of ARUS Executive Board
- Dursun BALCIOĞLU
   Head of Department of Rail Systems, Istanbul Metropolitan Municipality

- Marie VOPÁLENSKÁ General Director of ACRI
- Petr MARES
  Consul General of the Czech Republic in İstanbul

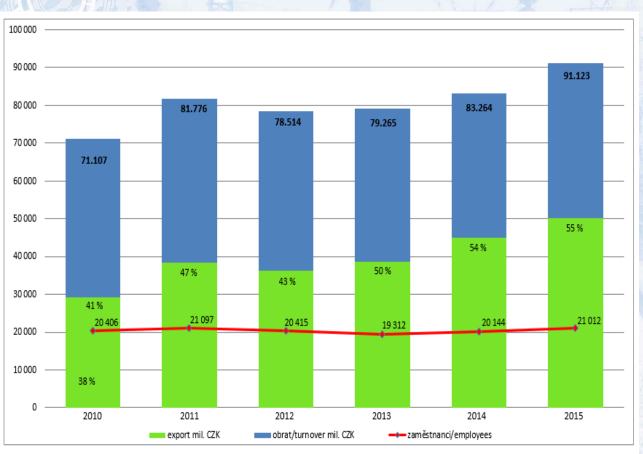




# ACRI – Association of Czech Railway Industry



50 leading companies of Czech railway industry associated in ACRI



- 21.000 employees
- **Annual turnover** 
  - 91 bilion CZK
  - 3,4 bilion EUR
- export 55%

ACRI is UNIFE member





# **CZECH RAILWAY INDUSTRY**

- 200 years of industry TRADITION
- EXPORT covers 55% of total turnover
- INVESTMENTS in new technologies
- Products INNOVATIONS
- COMPETITIVENESS of industrial branch

# **ACRI** members' portfolio









# AMiT – electronics for rolling stock and public transport

- AMiT, spol. s r.o. "Transportation"
  - the most important players in the development and manufacture of control systems and electronics for transport field, especially for railway and rolling stock

#### Vision

 To become a preferred reliable supplier in rail (and road) industry market as well as a respected quality partner in electronics engineering, manufacturing and services.











www.amittransportation.com



# AMiT – electronics for rolling stock and public transport

### Our offer is rare in the world by its scale and complexity, and includes:

- Passenger Information Systems (PIS)
- IP Surveillance (CCTV) and Audio Systems
- **IP Display Systems and HMIs**
- On-board WiFi
- TCN communication (MVB, CANopen, Ethernet, WTB)
- Communications Infrastructure
- Train Control Systems
- Driver's desks
- and Customer Development and Manufacture of electronics, and other solutions

for:

- trams
- subway
- high-speed trains
- commuter trains
- locomotives
- passenger wagons









# AV ENGINEERING – Complex development process & services











- Stylist design
- Feasibility Studies
- Patent Searches
- Conceptual Studies
- Detailed Design







Product

Prototype



- Laboratory testing
- Vehicle testing
- Vibration testing
- Data analysys
- Special test benches



- Dynamic
- Thermal
- •Fluid
- Fatigue
- Tolerance
- Specials



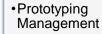












- Prototype Measurement
- Feedback to Design



# **BONATRANS GROUP a.s.**

### Premium Supplier for wheels, axles and wheel sets for rail bound transportation worldwide

- The largest European and the only Czech producer of railway wheelsets and their parts.
- Headquarters and production facilities in Bohumín, Czech Republic
- Workforce of 1344 employees (end of 2015)
- Sales € 232 mil. (2015)
- 89% of business sales from export
- Deliveries to over 80 countries of 5 continents









# CONTACT

Please don't hesitate to get in touch if you need further information.

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#### **GERMANY**

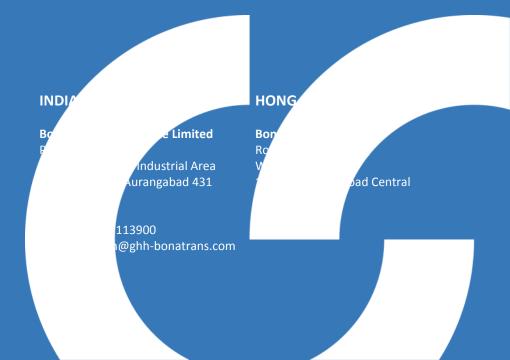
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## **OUTSIDE LED Illumination**

MSV elektronika is a producer of LED signal lights and LED headlights. Both types fulfill the requirements of EN15153-1 and UIC534 on colourity and luminosity and they were successfully certified as an interoperable element according to TSI LOC & PAS 1302/2014.

Signal lights can be used in the wide range of temperatures according to EN50155 ed. 3. class T2 (-40°C/ +70°C). These lights, designed, constructed and manufactured in our firm use the technology of high – brightness SMD LED, molded light reflector and special optics in the case of far-beam lights.



















## References

- ŠKODA TRANSPORTATION
- ŠKODA VAGONKA
- AŽD Praha
- CZ Loko
- DAKO-CZ





- **NEWAG**
- **BOMBARDIER**
- STADLER
- **TRANSMASHHOLDING**

















### WE CREATE SPACE

FOR THE ENJOYMENT OF EVERY DAY, MOBILITY, AND LIFE.





YOUR NEU DESIGNS AND FUNCTIONALITY ARE OUR TOP PRIORITY.



## PRODUCTS > TRAINS



1. RACKS | 2. WINDOWS | 3. PARTITIONS | 4. FOOTBOARDS | 5. PLATFORM/ RAMP 6. INTERNAL DOORS | 7. FRONT DOORS | 8. ENTRANCE DOORS | 9. WINDOWS SHIELDS | 10. DRIVER'S WINDOW | 11. DRIVER'S DOORS | 12. SOFTWARE |









### Research Institute for Materials and Technologies SVÚM a.s.







- \* Accredited by the Czech Accreditation Institute (CAI): CSN EN ISO/IEC 17025
- \* Certificate from General Electric Transportation Aircraft Engines
- \* Member of the Czech Testing Laboratories Association
- \* Member of the ACRI Association of Czech Railway Industry
- \* Producer of METALOPLAST / METALOFLON ® selflubricated bearings foil and foils of PTFE



Experimental research, development, testing, and counseling in the area of reliability improvement, cutting down the material costs for constructions and the components exposed to static and dynamic stress under various conditions.



- \* Resonance machines to 570 kN; servo-hydraulic machines to 2500 kN Servohydralic 4 axis loading machine; Charpy impact machines Electron scan microscope ZEISS with EDS analyzer Bruker Spark Analyser SPEKTROMAXx; Electron probe analyser CAMEBAX
- \* Rotating bending machine SincoTec for fatigue testing of railway wheels and axles-new level of axle and wheels.

#### SVÚM a.s.

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## **60 Years Experience in Telecommunications**



- Transmission technologies: WDM, SDH, PDH, MW
- Voice, VoIP, data: PBX, softswitch, dispatcher solutions, MSAN, GPON
- Security solutions: PSIM, CCTV, videoanalysis
- ▼ Teleprotection: PCM30U-OCH
- Managed services, integration, development, support, training



# www.ttc-marconi.com

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# **Examples of Railway Networks We Supplied**



- Italy
- ▼ Total length 1900 km
- Track layer PDH: 480 SPMX-I



- Ukraine
- ≥ 5000+ km
- ≥ 500+ nodes



- Total length: 460 km
- 75 stations
- 181 dispatcher terminals
- 23 track and 34 local radio systems



## Research, development and testing of railway rolling stock







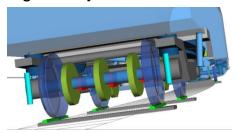


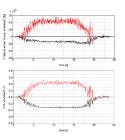
### Research and development

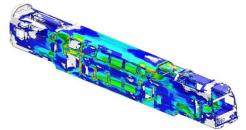
The **applied research** is focused on the topics of bogies, car body structures, vehicle interiors, mutual effects of vehicle – railway and environment, mechanical parts of driving gears, brake systems, failure analyses, test methods, legislation and technical regulations.

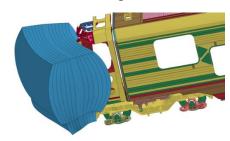
We offer complex vehicle solutions from the opening study via design, construction, drawing documentation and cooperation in manufacture of prototypes to approval and commissioning including necessary calculations and simulations.

The **development activities** are referred to the results of the applied research in the branches of bogie design, vehicle rough body structures, design of driving systems, brake systems, interior outfit, aerodynamics, acoustics, heating, ventilation and air condition systems, passenger gangways, couplers, design of bonded components in conformity with DIN 6701-2, design of welded parts according to EN 15085-2 class CL4, strength analysis, crashworthiness simulations, running behavior simulations and noise management.









## Research, development and testing of railway rolling stock





### **Testing and risk management assessment**

VÚKV a. s. is **accredited as the testing laboratory No. 1085** according to standard EN ISO/IEC 17025 and equipped for implementation of wide range of railway rolling stock, component and container tests in compliance with TSI guidelines, European standards and UIC leaflets.

Our key clients are both domestic and foreign manufacturers of railway rolling stock and transport technology, repair plants, infrastructure administrators and operators.

We are accredited to conduct the following tests of railway vehicles and their components:

Static strength tests, fatigue tests, impact and crash tests, on-track strength tests, ride quality and safety tests of railway vehicles according to EN 14363 (also using the instrumented wheelsets VÚKV System 4), brake tests, aerodynamic tests, noise test, heating, ventilation and air conditioning tests, measurement of dynamic properties and acoustic roughness of tracks.

**Inspection activities** in terms of EN 17020 in the area of the independent assessment of the risk management process – Regulation (EC) No. 402/2013 (2015/1136).

Independent assessment of railway vehicles technical characteristics and independent assessment of risk management process.