



Małgorzata Kozłowska

MEDCOM exports and wins new global markets

Siemens S70, San Diego (source: Siemens USA)

Currently MEDCOM implements several overseas contracts for railway and tram companies, including: CAF, Hyundai Rotem, Mitsubishi Electric and Siemens USA, as well as several other partners operating locally and regionally. This Polish manufacturer has been building its position on international markets for years, focusing on solutions dedicated to new vehicles. The company is also involved in projects related to the modernization of rolling stock and trams.

Polish solutions with a global reach

MEDCOM's consistently implemented strategy to diversify sales and supply brings positive results. Mexico, Australia, Tunisia, the United States and Japan are just a few examples of the recent railway and tramway projects of the company. MEDCOM offers also a wide range of solutions for electric buses - drives for systems with a central engine, hub-mounted motors, drive inverters integrated with auxiliary converters based on silicon carbide technology, battery chargers for e-buses and charging stations. MEDCOM's cooperation with Solaris Bus & Coach puts it ahead of such brands as Volvo ABB in terms of producing drives for electric buses. The company is one of the largest manufacturers of these products in Europe.

In 2017, MEDCOM decided to extend its factory and at the same time to invest in the expansion of its own research and development centre. This is an extremely important investment, because the company not only has increased its production capacity but will still assign significant resources to the development and popularization of new technologies (including SiC). Last year, MEDCOM together with the Warsaw University of Technology launched new postgraduate studies (Energy-electronics), and in January this year it began

recruiting technicians and installers. By the end of this year, the Polish producer intends to create 50 new jobs and promises that the recruitment will continue.

– We started our international expansion several years ago by supplying converters to Norway, Hungary and Ukraine. Today, one third of our turnover is generated by export and our products are delivered to 38 countries on six continents. We cooperate with more than 40 customers in the rail industry in Europe, Asia and both Americas. They include manufacturers of rolling stock and companies repairing rail vehicles. All contracts are the result of hard work of our whole team - both engineers, who design and introduce our products for mass production, and sales personnel and technicians/installers. Our 30-year history of development is the best proof that we can compete with the biggest corporations, achieving a competitive advantage through innovation, unique technologies, reliability of our products and the ability to handle even the most challenging projects – so underlines Joanna Nichthauser, MEDCOM.

MEDCOM static converters in underground vehicles in Istanbul

Now, one of the major international contracts executed by MEDCOM is the delivery of converters to more than 500 new EMUs for the intercity rail around Sydney. The contract is implemented in cooperation with RailConnect NSW. The new railcars will replace old units carrying passengers from Sydney to the Central Coast, Newcastle, Blue Mountains and the South Coast. The first railcars will be delivered in 2019 and the contract will be completed by the end of 2022.

MEDCOM also provides CAF and Mitsubishi Electric with converters for subway cars to be operated in Mexico City, whilst cooperation with Hyundai Rotem will soon bring the company's solutions to Tunisia and Turkey. The Tunisian contract is for the delivery of complete drive sets for 28 modern EMUs, whereas the Turkish order is for

static converters to be used in new subway cars in Istanbul. They will operate for the new subway line (M7).

1500 meters up the hill without power supply from overhead lines

The support of MEDCOM is regularly used by Siemens, which already in 2012 decided to install MEDCOM's auxiliary converters in the Warsaw subway. Currently, MEDCOM provided Siemens USA with static converters for trams in Seattle and San Diego, as well as on-board energy storage devices for trams in Charlotte. Another success of MEDCOM is the cooperation with CRRC, which is the largest manufacturer of rolling stock in the world. This company ordered from our Polish company complete propulsion sets, converters and control systems for subway vehicles.

– The energy storage unit designed for Charlotte can store almost 20 kWh of energy, which makes it undoubtedly a unique solution in the whole world. It will enable the trams to drive along the section of nearly 1,500 meters exclusively on the battery, without power supply from the overhead line, maintaining all operational parameters of the vehicles. An additional challenge in this project is the fact that the uphill section has the inclination a few percent and there is no overhead line along it. We are pleased that the first solution for this type of problem was developed in Poland by our engineers – says Jakub Zalewski, MEDCOM.

Fast integrated units in Norway and sleeping cars in the UK

MEDCOM is also very active in Europe. 'Serco Caledonian Sleeper' is a British carrier, which has just received from CAF (Spain) its first sleeping cars equipped with auxiliary power converters manufactured by MEDCOM. They will start operation in October on the London-Scotland routes. In total, the British carrier has ordered 75 new railcars and they will replace the units manufactured back in the 1970's and 1980's. Static converters from MEDCOM will be also installed in fast integrated units produced by CAF for Flytoget, a Norwegian carrier. In total, Norway will get eight 5-module units that may reach the speed of 245 km/h.

– Most of our international orders are extremely demanding. Already at the design stage, we need to thoroughly analyse the climatic and operational conditions of vehicles and include every requirement in the design in order to select the optimum technological solutions and perform multi-stage tests. Here, we could not apply standard solutions or repetitions and mass production, and Norway is the best example. In this case our converters must be adapted to work in extremely harsh temperatures reaching - 40°C. On the other hand, Australia and Africa generate other challenges, such as very high temperatures and very diverse weather conditions. Carriers expect maximum efficiency and reliability of the equipment, and we can guarantee these features which enables us to complete new projects – so says Joanna Nichthaus, MEDCOM.

Not only new vehicles, but also modernization

In addition to solutions for new vehicles, MEDCOM is implementing contracts for the modernization of rolling stock. For example, in Poland the company has already modernized electric locomotives for PKP Cargo and PKP Intercity, passenger cars for PKP Intercity and for Polregio, as well as upgraded all EN57 EMUs. MEDCOM supplied also products to Ukraine, and the company's largest international modernization contract involved the delivery of integrated drive, power and control systems for underground vehicles in São Paulo, Brazil. The company currently implements several similar projects, including an order for Toyo Denki (Japan), which involves the delivery



MEDCOM power-electronic equipment is used in trams operating in the Turkish cities of Antalya, Kayseri and Izmir



MEDCOM charging station in Jaworzno (Poland). (source : MEDCOM)

of our latest SiC converters to be mounted in rail vehicles used for cleaning tramway tracks in Sapporo.

– Our core business is based on projects involving new rail vehicles and the European market of electric buses, but we also want to be active in modernisation and we are looking for new markets, where our experience can be useful. We see such potential for example in Germany, especially in the modernization of the tram rolling stock. A thorough, carefully analysed and planned modernization, based on proven technology, is in many markets still a cost-effective alternative to the purchasing of new vehicles. This also brings tangible results in the form of a significant improvement in key operational parameters and passenger comfort – says Jerzy Kaska, MEDCOM.



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