

SMRT engineering subsidiary eyes international expansion

Singapore Rail Engineering (SRE) was founded in 2014 as an in-house engineering subsidiary of operator SMRT. SRE is currently engaged in rolling stock overhaul projects for SMRT, and as managing director **Mario Favaits** revealed to **Kevin Smith** in Singapore, has ambitious plans for growth at home and abroad.

SINGAPORE's Land Transport Authority (LTA) is currently overseeing a major expansion of the island state's railway network: three new metro lines are under construction while three others are planned which will take the total length to 360km by 2030 from 178km today.

LTA is planning to spend \$S 60bn (\$US 44.71bn) on infrastructure improvements in the next 14 years as it aims to keep pace with a growing population and demand for public transport services, and to firmly establish rail as the backbone of Singapore's transport system.

Inevitably this requires a huge expansion of the rolling stock fleet from 366 trains at present to approximately 750 by 2030 to operate both on the new lines, and to meet the demands of increased capacity; the introduction of CBTC on the North-South and East-West lines will reduce headways to 1min 40s, allowing more trains to operate during peak hours to meet demand.

In this climate of investment, SMRT, one of two metro operators active in Singapore, spotted an opportunity and founded Singapore Rail Engineering (SRE) on June 30 2014 as its own in-house engineering subsidiary.

The company was established to meet future demand from the growing network for maintenance, repair and

overhaul for rolling stock and permanent way, beginning with two initial contracts: the mid-life refurbishment of 19 six-car C651 Siemens trains, and the end-of-life refurbishment of 66 six-car Kawasaki Heavy Industries (KHI) C151 trains.

"SRE started with a blank page," says Mr Mario Favaits, SRE's managing director. "We had no people, no business, no processes, but we felt that with all the work taking place here, we should be able to have our own piece of the pie."

For the C151 end-of-life refurbishment, work encompasses replacing the propulsion system, HVAC and auxiliary power system (APS), train management system, brake control and the compressor on each train. Similarly the C651 mid-life refurbishment project covers propulsion, HVAC and APS, and the train management system as well as interior and exterior livery, and doors and gangways.

At SMRT's Bishan depot in central Singapore, while engineers work on two C151 sets in the main maintenance area, in a separate workshop, away from the maintenance hall, around 30 engineers from around the world are working on the C651 project, bringing experience from Asia, South America, the United States and Europe. During IRJ's visit, SRE engineers are busy assessing the condition of the stripped-back train in preparation for the

subsequent refurbishment work to deliver the revamped set.

Favaits says the focus is on getting the first C651 train tested and commissioned in early 2017. Thereafter the production rate will increase to one train per month to complete the project by the summer of 2018.

In addition to employing rolling stock engineers, SRE has been actively expanding its staff and its capabilities, in order to meet the current and future needs of the business. "We have hired over 80 people in the past 24 months who are skilled in systems integration, design capabilities, procurement, production, and testing and commissioning," Favaits says.

Indeed with the skill base of the company growing, the emphasis is increasingly on expanding the scope of SRE's activities.

Maintenance

The upcoming mid-life refurbishment of SMRT's six-car C751B trains is a possible opportunity to add to its order book. In addition, SRE has already taken its first steps into providing rolling stock component maintenance, repair and overhaul (MRO) services to SMRT through Faiveley Rail Engineering Singapore, a 50:50 joint venture between SRE and Faiveley Transport, with these engineers also



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SRE engineers assess the condition of a C651 car at the Bishan depot in Singapore. The first refurbished set will be completed in early 2017.

active at Bishan depot. Similarly SRE has established its own subsidiary, Railise, which holds the licenses to sell, deliver and integrate Toshiba's PMSM propulsion system outside of Japan, with SMRT the first customer for installation on the C651 sets (p40).

SRE's agreement with Faiveley is focused on providing maintenance, repair and overhaul services to operators in Southeast Asia, apart from Thailand, and covers doors, brakes, HVAC and pneumatic systems. Favaitis says that it is looking to grow its train overhaul capabilities internationally, while expansion into offering permanent way engineering services is a logical next step for the company, which could cover track maintenance, repair and renewal.

"There are upcoming permanent way opportunities on the North-South and East-West lines, which requires replacement sleepers and new third rail as well as general ballast cleaning," Favaitis says. "There are also a lot of new contracts in the MRO scope and

we are aiming to capture some of that market."

SRE is also eyeing opportunities to partner with companies with expertise in hardware development, for example in sensors for trains and tracks, and rail welding technologies, as well as in software development covering big data analytics, simulation, predictive maintenance, and cyber security that will strengthen a particular system's integrity.

However, to deliver this expanded scope of operations, in addition to organic growth Favaitis says SRE is considering mergers with and acquisitions of other companies already active in these areas. He says this will help SRE to acquire the required skills and personnel quickly, as well as secure access to new markets, and maintain control over the scope and direction of these operations.

Of course SRE is attempting to enter what is already a competitive marketplace, populated by established and experienced players. Yet as a

subsidiary of a reputable operator and by offering operator-infused solutions, Favaitis believes SRE will be in a strong position.

"One of the big challenges we face is the time it takes to secure approval and the sales cycle of two to three years," Favaitis says. "A key strength of SRE is that it is an operator-infused business, and unlike other vendors, we understand an operator's business and challenges better than anyone."

This approach will certainly set SRE apart. And Favaitis is bullish in his determination to expand SRE's activities to not just its natural marketplace in Asia, but to Europe and North America. He says that SRE and its joint ventures will be active at shows and conferences in promoting both their capabilities, and with several projects within its sights, and given the speed at which it is growing, it is probably only a matter of time before it nets its next contract.

"We are not just selling SRE's capabilities but SMRT's experience as an operator," Favaitis says. **IRJ**