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## TYASA and Primetals Technologies Celebrate 10-year Milestone for Cost-Effective EAF Quantum

- **Primetals Technologies' first-ever EAF Quantum started up 10 years ago at TYASA in Mexico**
- **Energy-efficient and reliable operation has resulted in an impressive 77,000 heats to date**
- **15 EAF Quantum furnaces in operation worldwide, with more currently being constructed**

Mexican steel producer Talleres y Aceros S.A. de C.V. (TYASA) and Primetals Technologies have recently reached a milestone for the world's first EAF Quantum plant in Ixtaczoquitlan, Mexico. On May 7, 2024, the 100-ton electric arc furnace had been in operation for 10 years, boasting some 77,000 heats and a total production of almost eight million tons.

"We are happy to celebrate this milestone achievement together with Primetals Technologies," says Oscar Junior Chahin, Co-CEO of TYASA. "Back in 2014, our clear target with the meltshop investment was to significantly increase our annual production while keeping operational costs down by utilizing the low power consumption levels of the EAF Quantum. 10 years later, we are pleased to say that the targets have been met, and the EAF Quantum has exceeded our expectations in terms of reliability and efficiency."

### Lower Operating Costs

Several technological innovations enable the EAF Quantum to reach remarkable performance figures. The scrap preheating system shortens the power-on times compared to conventional electric arc furnaces, where the scrap is charged cold. The EAF Quantum's scrap-preheating technology utilizes off-gas from the production process. Less energy is therefore needed to melt the scrap, resulting in lower operating costs as well as reduced CO<sub>2</sub> emissions.

The EAF Quantum can achieve power consumption figures below 300 kilowatthours per ton – with a power-on time of less than 29 minutes and a tap-to-tap time of less than 33 minutes.

### Remarkable Tap-to-tap Time

There are 15 EAF Quantums in operation across the world to date, and several furnaces are currently being constructed and implemented. Several of these plants have recently attracted attention within the industry as they are showcasing remarkable performance figures. As an example, the EAF Quantum implemented at Chinese steel producer Guilin Pinggang has achieved tap-to-tap times of 31 minutes at power-off times of 4 minutes.

## A Complete Minimill

Founded in 1985, TYASA is a privately owned company with two sites, the production location in Ixtaczoquitlan and a service centre in Mérida, the capital city of the Mexican State of Yucatán. With some 2,400 employees, TYASA produces special steel grades, flat steel, coated steel, and items for the construction sector.

Primetals Technologies has supplied TYASA with a complete minimill – the EAF Quantum, a twin ladle furnace, a twin vacuum degasser, and a continuous casting machine – as well as a reversing cold mill. TYASA has also ordered a CASTRIP production line, which is licensed by Nucor. To process strip from the CASTRIP line, the Mexican steel producer awarded Primetals Technologies with a contract to implement a combined galvanizing and color coating line in 2018.



TYASA's EAF Quantum from Primetals Technologies has produced 77,000 heats since 2014. The EAF Quantum is characterized by lower operating costs and reduced CO<sub>2</sub> emissions.



The EAF Quantum is designed to charge scrap via the innovative shaft into the operating furnace at the optimal time slot during operation. This is resulting in ongoing operation with ideal flat-bath conditions.

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