Reflecting passengers' top public transport experience priorities, Thales to provide real-time passenger density insights to public transport operators

- Distributed Intelligent Video Analytics – DIVA - is the new Thales solution to monitor social distancing, and to guide passenger when it is crowded. The solution helps alleviate crowding by reducing dwell times, and consequently enhances overall passenger safety, comfort, and travel experience.
- Based on Artificial Intelligence video analytics, DIVA leverages the existing CCTV network on stations and on-board trains to provide real-time information on passenger density.
- The targeted performances of density accuracy are above 90%.
- This new service is in the top 4 of "what passengers really want"[1]*.

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Thales brings its strengths in video analytics, AI and cybersecurity to the rail domain, with this new digital solution that enables effective crowd management at train stations and on-board trains. Nobody likes crowded trains and platforms. For passengers, crowding is one of the main causes of dissatisfaction. For operators, crowding is a concern because it adds to delays and can affect safety.

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[1] *What passengers really want: Assessing the value of rail innovation to improve experiences*
Luis Oliveira, Claudia Bruen, Stewart Birrell, Rebecca Cain - Transportation Research Interdisciplinary Perspectives, Volume 1, June 2019, 100014, https://www.sciencedirect.com/science/article/pii/S2590198219300144

This challenge is amplified by growing passenger demand. On the eve of the Covid-19 crisis, annual metro ridership globally was more than 62 billion – up 40% in just seven years – and rising at a rate of more than 5% a year.

Covid-19 has reversed this trend, at least temporarily. At the same time, it has brought the dangers of crowding into sharp focus for everyone. The immediate need is to enable social distancing and to do everything possible to prevent crowds from developing.

But crowding is difficult to manage. First, railways are complex and there are hundreds of locations to be monitored, including trains. Secondly, if transport operators can detect crowding, they still need a way to guide passengers to less busy parts of platforms and trains.

Thales' DIVA uses existing CCTV cameras – on platforms and trains – to measure crowd density. No additional sensors are required. Passenger density is calculated in real time using video analytics and passenger guidance can be provided via platform displays that show which carriages of an approaching train are busy and which are not with 3 levels of density - red, yellow and green color coding is used to indicate density.

Meanwhile, heat maps of stations and trains can be used in the Operations Control Centre (OCC) to monitor passenger movements across the entire system.

Video analytics can also be used for many other transportation use cases, among them the detection of unattended luggage and trespassing on platforms, and whether there are still passengers onboard when the train reaches the end of the line.

*"Rail operators are facing new challenges about passengers' safety. Passengers need to be able to move freely on stations and platforms, to embark and disembark from trains safely and quickly. These are fundamental requirements for the smooth running of a railway network. Crowding makes all of this more difficult. I'm very pleased to present our new video analytics solution for passenger density monitoring and guidance. This solution provides operators with tools to manage crowding on stations and trains and allows them to tackle the root causes of congestion." – **Benoît Couture, VP, Managing Director, Thales's Integrated Communication and Supervision Systems**

This new system has already been implemented as a pilot in Singapore with SBS Transit in 2020.

About Thales

Thales (Euronext Paris: HO) is a global leader in advanced technologies, investing in digital and "deep tech" innovations – connectivity, big data, artificial intelligence, cybersecurity and quantum computing – to build a confident future crucial for the development of our societies. The Group provides its customers – businesses, organisations and governments – in the defense, aeronautics, space, transport, and digital identity and security domains with solutions, services and products that help them fulfil their critical role, consideration for the individual being the driving force behind all decisions.

Thales has 81,000 employees in 68 countries. In 2020 the Group generated sales of €17 billion.

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