

Telematics delivers the digital future

Editor Leslie McCune talks with Dethmer Drenth, founder of IMT, the Netherlands-based telematics industry innovator

LM: What services does IMT offer?

DD: IMT is an independent telematics solution partner for the tank container and tank wagon industry. We offer generic as well as tailor-made telematics hardware and software. Our clients are tank operators, tank manufacturers, tank leasing companies and end-customers.

LM: What is IMT's background?

DD: IMT was founded in 2013 in Breda (The Netherlands), between the ports of Antwerp and Rotterdam. This location enabled us to learn, test and improve our tank sensors in close cooperation with the industry. In 2016 we opened a satellite office in Spain where 19 programmers are now working on the IMT software platform.

Because installing telematics on a tank in 2013 was relatively novel, IMT had a precursor role, explaining the added value of telematics to the market. For years we were only delivering small quantity batches but that all changed in November 2016 when Hoyer committed to fit all of their tank containers with IMT sensors, creating the first 'Smart Tank Fleet' of the world.

Hoyer was our first client that did a full roll-out on strategic reasoning. I still admire the vision and 'dare-to-act' mentality of Hoyer. It is now positioning them



many steps ahead of other tankcontainer operators.

Today all big tank container operators are customers of IMT. In a few years time we have grown from a 5 people company with EUR 300,000 of revenue and a big loss in 2014 to a company of almost 40 people, around EUR 10 million revenue and a healthy profit.

LM: and your own background?

DD: I have almost 15 years of experience in the telematics sector, starting in the early days of the first GPS oriented solutions. As Chief Technology Officer and

co-founder of a company that installed thousands of GPS tracking devices in vans and trucks, I learned telematics from bottom up.

We were the first IT company to turn a TomTom navigator into a track-and-trace solution just by connecting our hardware. Based on this success, GARMIN started to install our application as a standard on all of their navigators: 15 million units per year. In 2010 I started a new venture, developing a low-cost high reliable GPS-antitheft system for the automotive sector that was installed in thousands of vehicles of the VAG and PSA

automotive groups.

Based on my years of experience in building high quality, low cost and battery operated telematics devices I was looking for a new challenge in a niche market and found it in intermodal transport. In November 2013 I founded IMT.

LM: What are the benefits of telematics?

DD: The main benefit is fleet efficiency: by knowing the exact whereabouts and idle times of the tanks, one can transport more cargo using a smaller fleet. This secures cost reductions on several levels.

As telematics gives a better view on what is where and in which status at the depot, internal processes as storage, tank maintenance and tank cleaning can be better managed and optimized.

Also customer service is enhanced in a big way. Imagine the impact on the customer when they receive a fully automated e-mail including loading/unloading timestamps and a cargo temperature chart of the trip, just a few seconds after the tank is unloaded.

But telematics can be much more. Our platform can connect to other sources such as production and transport databases and on-site data pools. We exchange logistic data between different sources such as freight forwarders, tank container owners, sea ports and railway terminals. On-site data, such as production information, a supply chain order or depot information can also be added to create the total supply chain picture.

It is therefore no wonder that the Industrial Internet Of Things is now becoming more standard on tanks and demanded by the end-customer.

LM: What are IMT's biggest successes?

DD: By far our biggest success is the Hoyer deal, installing their whole tank fleet of around 40,000 tank containers with our sensors and helping them to get a clear digitalisation strategy in place. We are connecting the Hoyer tradition to the digital era, adding a lot of value by offering digital propositions to their customers.

One example of that is the way we supported Hoyer in developing the 'Connected Container' project with Bayer, where Bayer has chosen Hoyer to supply all their containers worldwide with smart technology, powered by IMT. The software team of IMT also integrated Bayer ERP data into a global information and alerting system of Hoyer.

The second big success for us is VTG Rail for whom we are developing a load-unload sensor for their fleet of over 60,000 wagons. This sensor will measure the load of the wagon and alert automatically in real-time when a wagon is loaded or unloaded. The fact that a market leader as VTG asked IMT to develop and produce this sensor is a big endorsement.

For me the third big success is our open way of partnering with other players in the market. Pelican Worldwide became the global distribution partner of our sensors. All new tank containers manufactured by Singamas and CPT are produced with our mounting plate already on the unit, enabling faster installation. We have also just entered into a partnership with TankContainerFinder.com, the leading online tank container platform, which will offer an IMT-powered smart telematics solution to their users.

LM: Has IMT developed its own patented technology?

DD: Yes, IMT holds two international patents. One patent is based on the non-calibration technology of our temperature

CV: Dethmer Drenth



Dethmer Drenth has always lived an IT life. At 14 he was a columnist in *Atari Magazine* and authored a book on Commodore 128 programming. During high school he worked in his spare time as a programmer for a Dutch software company, Davilex, and developed a password control system for the Belgian bank Kredietbank. He was chosen as one of the best 100 youth programmers in The Netherlands by the Dutch Ministry of Internal Affairs. Dethmer developed logistic and planning software for cleaning companies and built the first multilingual multimedia training software on CD-ROM. He sold the business after 18 months to Elsevier Training, at the time the largest IT training company in the Benelux region. During the early internet boom years, Dethmer co-founded a web-based training company and then switched to telematics, co-founding telematics companies GPS-Buddy, GlobeSpot and Suivo. He leveraged his considerable telematics experience to found IMT in 2013.



sensor. The thermometer will always show the temperature with an accuracy of 0.3oC and never needs to be calibrated.

The second patent IMT holds is for non-intrusive measuring of the liquid level of a tank through the tank wall. This technology is developed for and used in our liquid level and full/empty sensors.

LM: Cyber-security is one of today's major issues. How does IMT protect customers' data?

DD: IMT takes data security and availability very seriously and has dedicated specialists in place to make sure procedures, protocols and security measures are being reviewed and updated continuously. This ensures that the data will be secure and protected, only accessible to authorized users.

IMT is also the first telematics provider that is ISO 27001 certified. ISO 27001 certification requires an extensive set of procedures, protocols and security measures being in place to guarantee data availability, security and credible scenarios for disaster recovery.

The ISO 27001 certificate was mandatory for some chemical companies we work for and we

believe it will be as mandatory for telematics data security in the future as ATEX certification currently is for hardware sensors.

LM: Do sensors operate in explosive atmospheres?

DD: Yes, our sensors are ATEX Z1T4 certified and, since we produce the units and sensors in-house, our production hall is also certified to assemble ATEX devices.

LM: Isn't it expensive to equip tank containers with telemetry?

DD: Those times are gone. On a 10-year period the cost per day per container is between EUR 0.29 for a basic installation and EUR 0.60 for a full-fledged telematics container. All costs included and with unlimited concurrent use of the IMT platform and API.

LM: How important is scale?

DD: Scale helps lowering the average tank telematics price and enables the user to have the utmost efficiency return of the installation.

LM: How is IMT's telematics package different from SAVVY?

DD: Very different. It's probably better to not only compare it to Savvy but, in general, to all tank

container telematics suppliers.

Firstly, we are quantity-wise by far the biggest supplier of telematics solutions for the tank container sector.

The deal with Hoyer is, of course, instrumental in that but it also enabled us to invest heavily in growth. We currently have 6 hardware engineers and 19 software programmers working every day on new tanks sensors and extra platform functionalities. Only last year we developed four new tank sensors and the IMT platform got an update with new functionalities at least every three weeks.

By investing heavily into hardware and software development, IMT is now the only provider of a complete tank telematics sensor offering: location, ambient temperature, cargo temperature, pressure, heating history, full/empty status, heating system control, etc.

The development of a new sensor takes easily more than two years: at least one year for research, development, prototyping, field testing and making production of the sensor itself ready and another year for the necessary ATEX certification. Not many will take this effort anymore.

It sounds a bit frank but no tank telematics provider is currently on our level of speed. By investing heavily in new hardware and software development, we believe we will keep ahead of every competitor, which in the end will neither have the interest nor the money to try to catch up.

LM: At what rate can a telematics system be added to a tank container fleet?

DD: It all depends on the installation power one has. In general, installing a basic set of sensors (location and temperature) will take about 30 minutes for a skilled installer. Installing more sensors of course adds to the installation time.

LM: How are customer preferences for telemetry changing?

DD: In 2013, on a hardware level, only location was asked for. ATEX certification was not spoken of. At that moment it was very easy to enter the market with a low-end product, so many did.

During the years ATEX-certified hardware became a necessity and more sensors were asked for. In the end our customers demanded fully control of the tank from the office, measuring not only location and cargo temperature but also

the pressure and the heating history of a tank. The last sensor that hit the market is a full-empty sensor, measuring the liquid level in a tank (20%-80%).

Also the need to connect third party sensors became a need as certain clients may only install the sensors of certain suppliers. Currently we see the need of controlling a heating/cooling unit on the tank as a growing demand. In that respect we are now developing such a unit, able to set and read-out heating systems of multiple suppliers (Loebbe, Eltherm, Klinge, ...).

Also, on a software level, demands have changed in time. Where first only the whereabouts of the tank was needed, we are now building full-fledged software platforms connecting to the production and transportation databases of the producer and the operator. Also inter-operability between systems is a growing need in order to finally have the whole supply chain connected.

LM: How will telematics develop?

DD: As telematics become a commodity on tanks very fast, everybody will get used to working with the tank data and, inevitably, customers will get more demanding, resulting in new

hardware and software requests.

We already saw that with our customer Rinnen, for whom we developed a display in the truck that is wireless-connected to the IMT thermometer on the tank and shows the real-time temperature of the cargo to the driver.

Application examples like this will pop-up in the whole supply chain, not only at tank container level. IMT will not only install sensors on the tanks, but also at various locations in the tank depots and at the end-customer production site to measure production flows and predict transport needs.

All these sensors will interconnect and give a complete real-time overview of the total supply chain to make it fully transparent and therefore as efficient as possible.

New core technology will create new opportunities. Currently, a completely new worldwide low power low bandwidth network is being activated, called Narrow Band or CAT M1. It will enable sensors to become much smaller and much stronger. By 2021 it is expected that this will be active worldwide. One of our six hardware engineers is working full-time on this new technology as we see many possibilities ahead.

LM: What next for IMT?

DD: Our business focus will stay on tank containers and tank wagons. More sensors will measure and control more steps and finally the complete supply chain will be online.

But sensors are only a data input. It is all about what you do with that data and especially in connection with other big data. We foresee that all processes in the supply chain in the end will be connected to each other. With our excellent programming team, we will keep on enriching our generic platform as well as supporting the market with tailor-made integrations.

IMT platform connects to the production and transportation databases of the producer and the operator

