



## R&D TECHNOLOGY FOCUS

By Neil Hannay  
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### **Neil Hannay, Senior Development Engineer with Titan Enterprises, talks with leading industry journal The Engineer, April 26<sup>th</sup> 2021**

- *What industry sectors are you focusing on this year and what is driving this focus?*

Titan Enterprises supply small bore, liquid flow metering solutions to a diverse range of markets and applications. From healthcare and pharmaceuticals, chemical process plants and automotive fluid flow metering, to flow measurement in hazardous petrochemical refineries and beverage/beer dispensing in the hospitality sector. Whereas hospitality - and thus the beverage/beer industry – has taken a significant economic hit this last year due to the COVID-19 pandemic, healthcare, pharmaceutical and the oil and gas industry remain strong markets for Titan.

Titan works with OEM customers in developing bespoke liquid flow meters outside of our standard range of sensors, driving our partnership innovation in key sectors. We develop custom flow solutions that work with customer-specific equipment and/or applications, meeting customer needs precisely. For instance, Titan's high-pressure range of Oval Gear flow meters are typically built to order, and customers may request a change of materials, pressure ratings,

electrical and port connections, and even dual pulsed output to enable reverse flow measurement.

- *What are those sectors asking of you and what solutions are you providing?*

Outside our standard range of flowmeters, Titan offers a complete liquid flow meter design and development service, tailoring the design of a flowmeter to match the exact application requirements of our OEM customers. For instance, changing the housing to fit a specific footprint/design or the addition of extra sensors into the design without compromising the performance of the flowmeter.

For oil and gas applications where the presence of strongly acidic or basic chemicals must be considered, Titan offers a choice of construction materials across our Oval Gear flowmeter range. Adapting designs to meet specific high-pressure requirements and aid chemical compatibility, the use of non-magnetic materials and exotic metals, such as Hastelloy and Titanium, are examples of our growing bespoke flowmeter work.

Our OEM customers often request specific liquid flow pressure ratings, particularly important within the oil and gas industry that requires highly accurate and chemically resistant flow measurement devices. Titan's own inhouse pressure testing facility allows us to test flow devices up to 1000 bar, such as Titan's Oval Gear high-pressure models as used in metering high pressure additive injection.

- *Can you provide an example of a measurement innovation that will move your offerings forward in 2021?*

Over the last year, Titan has made advances in our ultrasonic flow meter devices, enhancing the software and hardware to provide larger flow range capability or increased stability, whilst lowering costs. These technical innovations broaden our flowmeter applications, generating significant interest particularly in the healthcare and domestic water markets.

Using our propriety ultrasonic flow technology, Titan supplies flow measurement devices for multiple medical applications, including laboratory measurement, cleaning and sterilization systems and cooling systems. Titan has also been involved with developing flow metering systems that have a more specialised healthcare application, such as monitoring dialysis, IV injection and measuring plasma flow for organ blood pumping systems.

We are currently working with an OEM partner to integrate our ultrasonic technology – the Atrato® Flowmeter – into a turnkey solution for low flow leak detection within domestic water monitoring systems. In 2021, we are also working to accommodate the hard-hit hospitality industry, by developing a low-cost ultrasonic flowmeter for the beverage market.

- *What is the key product for you currently and how is it being applied?*

The focus technology for Titan at present is our ultrasonic liquid flow measurement devices. With electronics becoming faster and cheaper there is scope to produce more accurate and bespoke systems at an affordable price. This in turn allows, for example, for more sophisticated medical devices to be developed that a few years ago would not have been practical or cost-effective. Taking our Atrato® and Metraflow® ultrasonic flowmeter product design understanding, we have pushed both electronics and physical design to improve the overall performance window.

As we expand the flow range for industrial applications, increasing both turndown and low flow capability, this development work will also have an important application in the healthcare sector.

Our team of experienced design engineers are always happy to discuss an application with a customer, using their expertise to ensure any solution offered will provide the results they need.

### **Interviewee Bio**

*Neil Hannay is Senior Development Engineer at Titan Enterprises. He joined the company just over three years ago to manage the development and innovation of flow measuring systems.*

*His previous experience over the last 25 years includes project managing industrial research and development, focusing on process devices and processes for gas and liquid systems for the oil and gas, chemical, food, water and pharmaceutical sectors.*

*Neil began his career in water treatment process and equipment design, focusing on flocculation, ozonation and biological treatment processes and devices and then moving to biological and chemical process development in the food and chemical industries. Over the years, Neil has accumulated expertise in gas and liquid flow control and measurement and customer process integration.*