

On the brink of change?

Nick Smee, CEO, Yotta considers why the need for innovation within the industry is becoming urgent



“To move forward, the industry needs to improve the way it shares innovation”

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When only thousands of cars used the roads, rather than the billions that do so today, demands on the highway system were less complex. There were few immediate or urgent needs for innovation, so the highways industry could afford to take its time in assessing new ideas.

For example, advances such as polymer-modified bitumen to improve road surfaces, or the development of analytical pavement design took years – decades even – to be accepted. It was considered sensible to insist on multiple examples of successful implementations before establishing new developments as standard best practice.

But, today, a combination of factors have made the need for innovation more pressing. Traffic volumes have reached an all-time high, according to the Department for Transport (DfT), while at the same time, the public's perception of the overall state of the road system is worryingly low. In a recent Yotta survey, 62 per cent of road users believed standards in their local area had declined over the past five years.

In the background, ongoing lack of funding for road maintenance is forcing councils to look for new ways to save budget in a climate of uncertainty about how Brexit will impact long-term investment. Despite the extra £1.3 billion provided by the Chancellor to improve Britain's roads in his Autumn Statement late last year, they look set to remain cash-strapped for the foreseeable future.

All these factors coincide with great leaps in technological progress – especially in fields such as sensors and data analytics, both apposite to road design and traffic management. The

expanding Internet of Things has led to the emergence of smart roads and intelligent traffic systems, with the promise of huge volumes of potentially useful data.

Change often only happens when a potent mix of drivers combine to make it inevitable – and the industry appears to be currently on the brink of a huge shift in thinking. Local authorities can no longer afford to view new ideas with suspicion and bide their time before implementing. Quite the opposite – successful councils will be proactively encouraging innovation in managing and maintaining their assets in order to survive.

Thinking creatively

One area where thinking creatively will make a difference is in the use of data – not just from smart roads and other advanced concepts, but when technology is used to manage assets more efficiently and proactively. When data is accurate, current, centralised and accessible it can be used in many ways, from cutting maintenance costs to driving enhanced communications and collaboration.

For example, the latest software solutions allow users to model how asset conditions are likely to deteriorate over time, validate those models with engineers working onsite, gain broad approval and then use this information to help future decision-making. They can tune the software to identify what matters to them locally, while also reflecting the national picture.

In turn, this helps facilitate a more collaborative approach to highways planning with solutions providers, councils and contractors coming

together to achieve a common goal. Because key data is more easily accessible and can be visualised for better understanding, it also encourages better communication between stakeholders, leading to improved transparency and faster approvals.

Intelligent infrastructure

To move forward, the industry needs to improve the way it shares innovations. For example, local authorities trying new materials such as low temperature asphalt at the moment tend to do so in isolation. If they had a way of pooling their experience it would save so much duplication of effort. The same is true of national research – which is often available but not proactively shared.

With all the exciting changes brought about by sensors and intelligent infrastructure, the highways industry is at last pulling itself up to the level of other industries such as consumer electronics. I'm optimistic about the future, especially as demographics evolve with millennials and the generations beyond working their way up in the industry are more likely to embrace technological change.

When we first developed our asset management software, one person involved in the industry told me that the product was brilliant but 'nobody would buy it' as it represented a significant modification to traditional processes. In other words, nobody would embrace the changes required. That was around three and half years ago. Today our Horizons software has over 60 clients across the UK, Europe and Australia, all generating improved asset management practices and behaviours. The signs for the future are positive. ●