



Think beyond

by Matthew Wittemeier, *Director Marketing and Sales, Terminal & Distribution Logistics Division, INFORM*

At the IANA Expo 2021, I had the pleasure of sitting on the automation panel with several distinguished and undoubtedly more experienced professionals. The conversation ranged from practical steps toward automating today to innovations that will come to shape the industry in a decade. Somewhere in the middle, the moderator brought up the topic of “sustainability.” I was the last to have an opportunity to voice my opinion – a fact that I’m grateful for because each of my fellow panellists talked about electrification – in any way, shape, or form – as being the primary focus of sustainability efforts in intermodal. I took a vastly different approach. I posited that while electrification is a positive step, it is merely scratching the surface of what could be achieved if we fundamentally rethink what sustainability is, what it means to our industry, and what would constitute a future-ready vision of sustainability in the transportation sector.

I made the point that electrification of terminal assets principally moves the emission of CO₂ out of the terminal environment upstream to the energy producer – but the CO₂ is still being generated. Unlike our maritime cousins, who are actively building green energy production into their facilities, intermodal terminals in the US are still predominately receiving electricity generated centrally through the burning of fossil fuels. As such, while the terminal might see a decrease in CO₂ emissions on the facility, they’re passing the buck to the energy producer, who will see a net gain. An improvement in environmental sustainability doesn’t happen unless the terminal can guarantee that the electricity running their new electrified equipment is itself green.

Even worse, the increased demand for electricity to terminals adds strain to the electrical grids they’re connected to, an issue, which in time, is likely to increase electrical costs for other system users. **DP World’s Carla Grifo shared a very**

similar sentiment when I talked with her during a 2038: Future Visions interview. In short, electrifying equipment is good, but only when the electricity is produced locally. True sustainability is about doing more with less and pushing the return of existing assets to their fullest.

What is sustainability?

The first thing that comes to most people’s minds when considering the term “sustainability” is environmental sustainability. Yet, it is so much more. Sustainability is more a thinking framework than a singular end goal. The sustainability framework provides a way to consider the future impact of an action, a process, a system – on the planet and its creatures, including people. The environment, or the planet, is a single side of the equation. If we set electrification against the broader framework, while potentially positive for the planet, if the cost of living is inadvertently raised for the people in the surrounding communities, then the

true sense of sustainability isn’t achieved.

While I have only been in the industry for the past five years, I have certainly seen a sector dedicated to improving the world around it. Rail freight transport on its own drives significant environmental benefits when compared to long-haul trucking. The discussions around electrification also indicate that the industry wants to improve its environmental sustainability outcomes. That said, we need to consider the broader framework of sustainability as discussed above when considering what actions to take.

In a January 2021 technical paper in *Port Technology*, my co-authors and I presented evidence from multiple studies of INFORM’s optimisation modules looking at the impact of optimisation on traditional diesel-powered, horizontal transport equipment. One of the key takeaways was that reducing equipment to complete the same quantity of work was the most significant way to reduce CO₂ emissions within the system.



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Furthermore, multiple studies on the consumer automotive market conclusively show that the environmental cost of producing a new electric vehicle is significantly higher than the environmental cost of maintaining and using an already produced gas-powered vehicle. Naturally, replacing end-of-life machinery with new electrified hardware is a solid argument.

However, these two points together make a compelling argument that replacing existing diesel-powered equipment for the sake of driving sustainability is, again, not a positive move towards sustainability.

A future vision of sustainability

We must look at the short and the long term as an industry. Concerning

the former, we need to weigh the pros and cons of investments, including those sustainability-tagged. However, regarding the latter, we ought to challenge how we operate our terminals. Are the processes we have in place today the best – or do they exist because that is how we have ‘always done it’?

Rethinking sustainability starts with understanding and seeing the larger framework presented. But it can only truly be effective if we dare to be willing to reconsider the foundations on which

we have built our industry. Innovation and new ways of doing things are all too often seen as scary, and risk-averse management structures prevent us from actually creating real positive change.

In closing, I encourage you to think beyond electrification. Think beyond your current operations. Think beyond the limits of what you have today and truly consider what would drive real sustainability in the industry. We have a saying at INFORM: old process + new technology = expensive old process. □



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