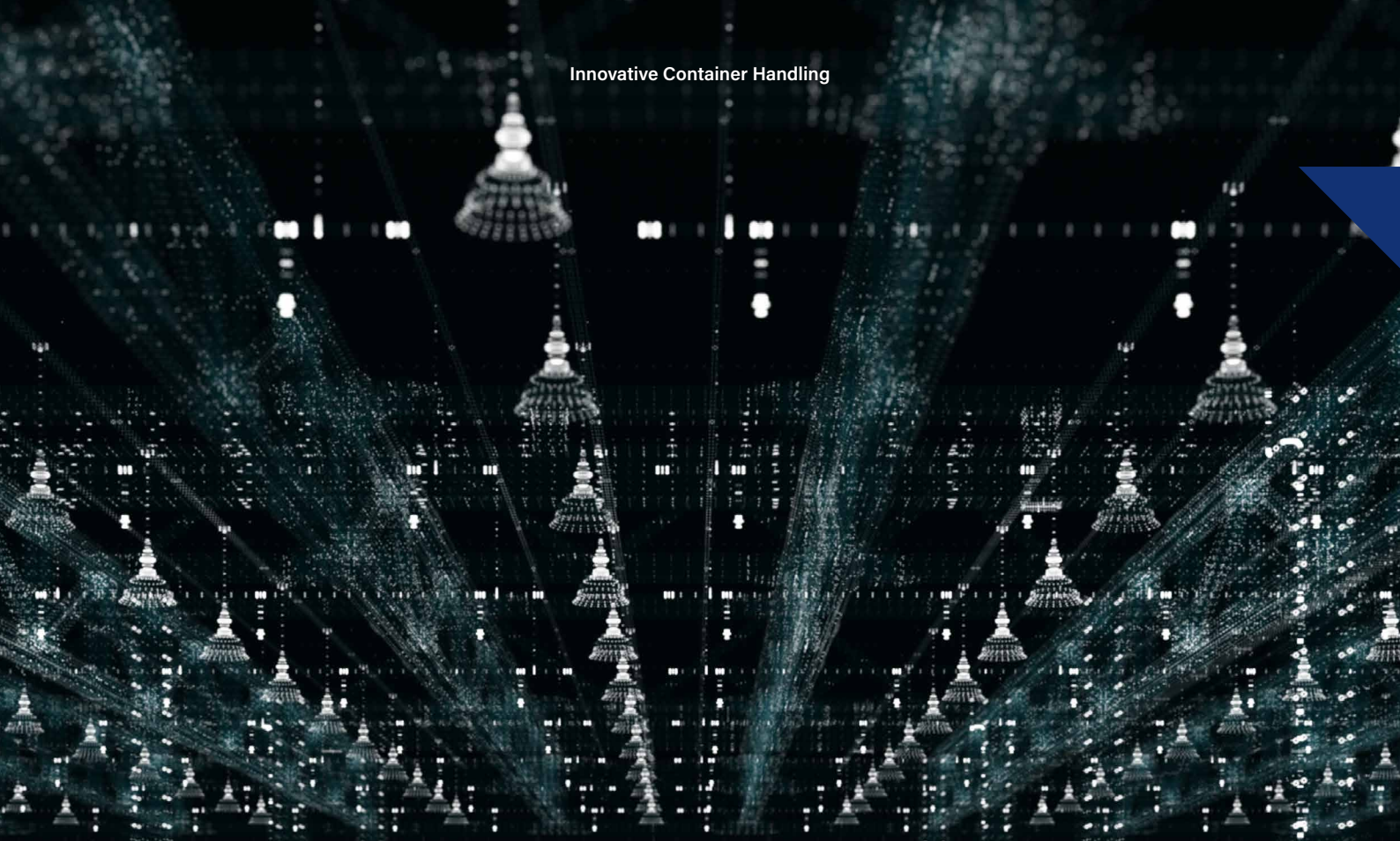

DEFINING SUSTAINABLE INNOVATIVE CONTAINER HANDLING IS THE REAL VIRTUE: EFFICIENT, PRODUCTIVE, SAFE, AFFORDABLE AND RESILIENT

Dr. Rafiq Swash,
Founder, Aidrivers

Tomorrow's successful container terminal operations must be efficient, productive, safe and resilient (including having the agility to be forward-compatible). No debate there, but there is a tendency to focus on the first three virtues and forget about the fourth.

If COVID-19 taught us nothing else, it was the importance of resilience! However, it's important to remember that resilience covers a great deal more than the challenge of working through lockdowns and restrictions. Resilience means being able to adapt to changes and able to adopt change; it means ensuring your technology is flexible and futureproof; and it means remaining agile, and never allowing yourself or your operations to become fixed on one path. A successful terminal must never be limited on choice when it comes to expanding or realigning operations.

Autonomous container handling and mobility solutions can deliver on all four virtues, of course – but only if carefully planned and implemented. Resilience is vital here too. Automation may sound like a 'new' idea to some, but the technology is moving fast.

AUTONOMY INSISTENCE

Not so long ago, automation solutions provided rigid, fixed operations with well-defined productivity but little scope for change or improvement. We need to move away from that rigid approach – innovative container handling must always be forward-compatible. There must always be room for improvement!

Any terminal operator taking the steps towards autonomous operations should step away from any 'rigidness' and choose technology that is adaptable and platform-agnostic. This means not being tied to a particular crane manufacturer or equipment provider. It means insisting on autonomy in automation.

"WHAT ELSE DOES RESILIENCE REQUIRE? I BELIEVE THAT IN FUTURE, EFFECTIVENESS WILL BE KEY, ALONGSIDE EFFICIENCY."

The Fourth Industrial Revolution refers to disruptive technologies including the Internet of Things (IoT), AI, robotics and virtual reality (VR). However, we no longer regard such technologies as 'revolutionary' – we have reached the point of evolution rather than revolution. In other words, in this next phase everything will continue to evolve – and we need to be able to be flexible enough to keep up. That requires real agility in terminal infrastructure.

Innovative container handing requires investment in new technology. That means not just acquiring new technology, but taking the time to think about effective implementation and the training and recruitment of the right people to pioneer the new paradigm of cognitive or intelligent automation involving whole new layouts. The traditional ways, based on decades of experience and expertise, have worked well for terminals all over the world – the new ways require rapid learning and a whole new way of thinking, if a terminal operation is to have the capacity to meet the continuing expansion in supply chains.

HOW DO WE FOSTER RESILIENCE?

What else does resilience require? I believe that in future, effectiveness will be key, alongside efficiency. Back in the day, as long as a terminal was 'efficient', there was little concern about whether it was 'effective'. We accepted ineffective efficiency! It's quite possible to do your work more efficiently, but that doesn't guarantee success in this rapidly growing industry. If you are doing that work incorrectly or wrongly, how is that effective?

Resilience also requires accessibility; systems and solutions must be easily implemented, with zero downtime and with a great affordability. No terminal operator can afford to take a few days off in order to install or commission a system. That's where Aidrivers' scalable eco-system comes in; terminal operators can dip their toe in the water, deploy an autonomous eco-system in one or two vehicles or cranes, try things out, re-adjust, get the productivity and resilience right, and then scale up. Our autonomous simulation and digital twinning solution provides the ultimate tool,

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enabling risk-free autonomous automation trials beyond a concept simulation that mimics the real-world operations without disturbing the operations at the terminal.

All of this brings us to another aspect of resiliency – affordability. Cost is important and we cannot continue to think otherwise. That is especially the case as every day ordinary items are shipped around the world and through our ports – shipping is no longer just reserved for high-value luxury goods. In a world of complex, international supply chains, port downtime can cost lives when people are waiting for essential food or medical items. And it is a fast-growing sector.

Sustainability underpins all of this – and that includes not only zero waste in the operation with great energy efficiency including green energy engineering which means clean operations, but also sustainability of future technology, to ensure consistent, reliable operations in the years ahead.

As a global specialist in AI-enabled autonomous solutions and autonomous retrofitting capabilities for industrial transportation automation, Aidrivers is passionate about empowering the ports industry. Real results are always impactful through cooperation and collaboration.

OUR LATEST PARTNERSHIPS

In this regard, Aidrivers is delighted to have signed agreements and partnerships with a range of specialists in our industry. This year we have signed an agreement with PortxGroup to combine expertise and deliver AI-enabled autonomous mobility solutions for the port and logistics industry in the Australasia region.

The expertise, skills and technical knowledge of Aidrivers and PortxGroup complement each other perfectly. An international industry provider of logistics solutions, PortxGroup provides container cranes, forklifts, container spreaders, terminal tractors, cabins and parts, and offers engineering solutions, maintenance and servicing for all types of materials handling equipment, working directly with global OEMs. In our new partnership, Aidrivers and PortxGroup are focusing on the provision and delivery of AI-enabled autonomous mobility solutions, automation simulation and digital twinning with V2X-enabled fleet operators for ground handling equipment in ports, warehouses and intralogistics operations.

We signed an MoU with CVS Ferrari, the producer of high-quality and innovative industrial equipment and machinery; our strategic collaboration will focus on the development and refinement of innovative autonomous empty container handling solutions.

We have also partnered with the global engineering and technical professional services firm Jacobs, to work together to implement autonomous technology in industrial automation and all areas of the transport sector, including ports.

Recently, we teamed up with Korean industrial logistics solutions specialist Total Soft Bank, as it develops innovative operating systems in port automation. Aidrivers and Total Soft Bank will work together on the effective implementation of autonomous mobility automation that meets the industry's needs for a sustainable future – together, we will look at all opportunities to service the market, where the skills and expertise of each party may complement each other.

If we are all to gain the maximum benefits of AI-enabled automation in ports and logistics, and deliver resilience and sustainability, we must have an open-minded attitude. We must work together.

"IF WE ARE ALL TO GAIN THE MAXIMUM BENEFITS OF AI-ENABLED AUTOMATION IN PORTS AND LOGISTICS, AND DELIVER RESILIENCE AND SUSTAINABILITY, WE MUST HAVE AN OPEN-MINDED ATTITUDE."

ABOUT THE AUTHOR

Aidrivers' founder Dr Rafiq Swash of Brunel University London contributes to international research in AI, visual information search and retrieval, computer vision, 3D sensors, predictive data analytics and automation. Professionally this has expanded into further international leading collaborations in connected robotics, AI-enabled automation, sensor intelligence and fusion, digitisation and behaviour and pattern modelling.

ABOUT THE ORGANISATION

Aidrivers provides specialised AI-enabled autonomous mobility solutions for port terminal automation that meet the needs of port operators. The company is working passionately to address industrial mobility challenges by optimising industrial operations and improving the quality of service towards a sustainable future.