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## 10TH ANNIVERSARY EDITION

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# Get smart

CIRCOR designs and manufactures highly engineered products and sub-systems for some of the world's most severe-service and mission-critical applications, including the oil and gas industry. STM sat down with senior director of pump sales Mark Korzec to discuss the changing nature of the storage business and the impact of technology



PD pumps may have an edge here when combined with smart technology

**STM: As a supplier to this industry, what guiding principle do you hold dear so as to serve customers at the highest levels?**

Mark Korzec: Everyone in the value chain needs to remember that storage per se is not the objective of the terminal or tank farm manager; rather, it is the timely, efficient delivery of a stored product. Our attitude needs to be: let's first talk about the objectives of your operation, and your process requirements, review your pain points, bottlenecks and cost constraints. Only then can we evaluate which products will optimize that process and your business objectives.

**STM: Is speed actually more important today than it was in the past?**

MK: Absolutely. There are so many external factors governing the movement of raw and refined products today, such as new market geographies,

new terminal locations, new and different stored products, competing storage alternatives and even new means of transporting fluids.

The terminal operator of the future will consider flexibility first and, secondly, will value how rapidly they can deliver or how fast they can adapt to changing market conditions and needs – any one or all of which have a bearing on whether product can be delivered in a timely manner.

**STM: So if we understand that storing fluids is a means to an end, what are the factors that typically impede achieving that end?**

MK: That depends on the maturity of the terminal. If it has been in operation for a long period of time, it likely is somewhat constrained by design aspects; a terminal constructed 20 years ago may have been designed for specific fluids and transfer objectives that are no longer applicable.

New terminal design and construction have the advantage of looking at new equipment technology to address the speed and flexibility necessitated by current market dynamics.

**STM: What does that mean from a pump supplier perspective?**

MK: The industry has too many choices both from a technology perspective

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## The new generation of terminal design engineers is far more comfortable with the concept of smart technology

decades, you have the advantage of seeing what legacy solutions can be strengthened with technological advances to create optimised performance. We cannot lose that body of basic pump knowledge residing with long-time pump professionals; preserving it requires intergenerational collaboration, which has to be a conscious commitment given how global most suppliers are!

### STM: So you think the expertise of equipment suppliers is more important to the overall equation today?

MK: Let's say more of the customer base has a better understanding of centrifugal technology than they do positive displacement (PD) pumps. Yet PD pumps may have advantages in solving old problems and avoiding new ones in the tank and terminal industry. Where is the disconnect? Well, the bible of the pump industry which sits on my desk, Igor Karassik's Pump Handbook, has only 52 pages (out of 1,102) on rotary PD pumps. Product selection and specification are affected by prior education, experience and a 'that's what we've always done' mentality in many companies. That does not cut it anymore.

### STM: How is the deployment of smart technology faring in the storage industry?

MK: The new generation of terminal design engineers is far more comfortable with the concept of smart technology so the days of having an operator slow a pump down manually to compensate for cavitation or manually shutting a valve are quickly disappearing. Sociologists predict that more than half of children born after 2019 will never hold a driver's license, so what will the future of tank and terminal design look like in the same time span? I have been in this industry too long to think that things will stay the same; a new perspective on ownership, operation, energy consumption and what fluids will flow is upon this industry now.

### STM: What do you see on the horizon for collaboration between the tank/terminal and pump industries?

MK: I see the day when pump delivery will be predicted by revolutions per minute. Instead of using smart technology only for predictive maintenance, I see the inputting of pressure, suction conditions, fluid type and viscosity parameters to predict loading and queue times. This could be a game changer! Imagine that a 10,000-gallon delivery is the requirement and that the pump delivers 5 gallons per revolution, or 2,000 revolutions. Calculating the viscosity, tank level height (affecting static head) and pump speed could result in a fairly accurate 'time predicted to fill'. PD pumps may have an edge here when combined with smart technology. Add to this the fact that PD pumps now are reaching flows as high as 20,000 gpm (a concept I would have laughed at 48 years ago), and you've changed the very definition and role of loading and unloading pumps.  
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▶ and from the ever-growing number of competing manufacturers. The challenge is how we effectively support the tank and terminal market as a new generation of terminal design engineers confront the onslaught of choices for fluid movement, all of which substantially affect the speed and flexibility that owners really need. One of the latest trends in the marketplace is Research Online Purchase Offline, or ROPO. In the future, that may mean companies with the best websites could have an edge over those with mediocre sites. It's possible that the most suitable pump technology to meet overall objectives may not be considered at all.

### STM: What concerns you that might not be obvious to someone newer to the industry?

MK: When you've been around for



PD pumps now are reaching flows as high as 20,000 gpm



Mark Korzec

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