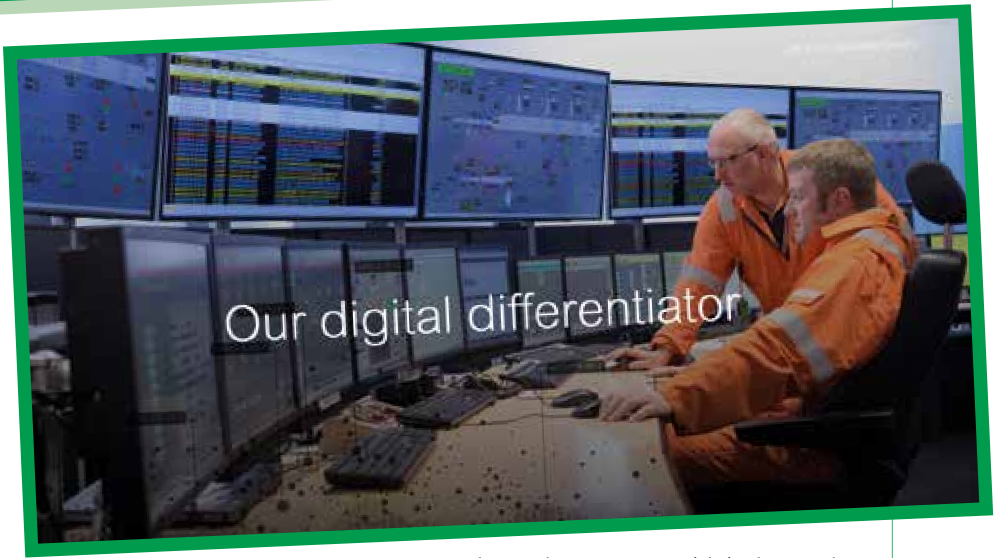
Grid-to-glass: SCHNEIDER ELECTRIC's green energy-smart industrial solutions

At Glasstec 2024, GMP&A Senior Editor Nick Fouché interviewed SCHNEIDER ELECTRIC Vice President & EMEA Mining, Minerals and Metals Segment Leader Alex Richards about the software solutions his company is bringing to the glass industry - all to advance electrification as it drives both automation and digital transformation across sectors.



GMP&A: ALEX, LET'S BEGIN BY HEARING FROM YOU ABOUT SCHNEIDER ELECTRIC

AR: Schneider Electric is a global electric technology company that comprises several core elements by which we contribute towards the sustainability of our customers' industries. In fact, sustainability has been a key focus at Schneider for the last fifteen to twenty years. Here I refer in particular to electrification, the automation of industries, their digital transformation and their decarbonisation. We're working across a number of industrial verticals to help meet the challenges companies are experiencing in, say, the mining and minerals segment. That includes steel, cement and, of course, glass. We're at Glasstec to showcase and demonstrate to customers and to the ecosystem what we can do around glass. That's everything from how do you secure your energy. More specifically, if you're going to a major electrification programme, you need to know that there's enough energy available from the grid. You will be asking: Is there enough clean, green, renewable energy available? Can you secure that via power purchase agreements? Can you look at micro-grid solutions? How are you solving the actual access to energy for your plant?

GMP&A: So we're talking about mapping of infrastructure

AR: Mapping is an apt expression here because we typically start with a consulting engagement. Whether that's in decarbonisation sustainability roadmapping, digital transformation or process electrification, we start with consulting engagement to understand from each company what the challenge they're facing is as well as their particular objectives and goals. We also look at challenges that are common to everyone's individual circumstance given that certain constraints around, say, power availability, level of automation and digitisation may be the same for a site in the Netherlands as it is in Germany or the UK.

GMP&A: Alex, can you speak to challenges that may arise in countries where the energy grid is less sub-optimal?

AR: Sure. Last week I was in South Africa and one of the big challenges for them has been load-shedding. In the last few months that's improved but, of course, if you're looking for an electrification solution to decarbonise your plant you're going to have a challenge in that situation. One needs security of supply to keep operations running. Indeed you have to consider such constraints before you start planning your next five to ten years of operation. At Schneider we look at all those aspects from A to Z. What we're showcasing here at Glasstec is really the grid-to-glass story - from consulting through to planning the relevant infrastructure upgrades to a story which we call integrated operations for power and process. There we begin by asking: How do

you take the disciplines of power, process control and automation to then connect those two disciplines to ensure customers have operational efficiency, more autonomy, uptime improvement, etc. We're looking at how you can bridge the gap between control systems and automation systems to enable customers to have a more reliable plant and ultimately drive down capex and opex costs.

GMP&A: So you leverage industrial software to drive companies towards industry 5.0.

AR: Precisely. Just in terms of the scale of investments, the fastest moving segment is that of data centres and their associated service providers. That's across the board. Obviously with industry 4.0 we had the AI explosion so that's really driving huge acceleration. If you look at the more industrial segments like automotive, the pressure -particularly on Europe- comes from upstream in the value chain. What it's saying to metals, glass and mining companies is: 'We need you to decarbonise because what we want to brand and badge is electric vehicles that are green. Our consumers and regulators are also telling us we need to cut down emissions.' We already know there've been commitments to be at net zero by 2030 and 2050. So it's very important that upstream industries like glass, cement, steel and mining are all able to decarbonise their operations - all to meet the needs of their customers before it even gets to an end consumer like you and me.

GMP&A: Using a glass-specific example, what can you tell us about Schneider Electric's offer to its customers in the area of industrial software?

AR: Some time ago Schneider Electric acquired industrial software company Aveva, thanks to which we can now offer an agnostic, end-to-end software portfolio and platform that will provide accompaniment from design of a new plant right the way through to operations, asset performance management, etc. That digitisation also filters down to every level of technology. We're currently working with a new open automation architecture where we're helping a customer embed a digital control inside products to ensure they get continuous glass production without interruption, thus saving on capex and opex, reduced downtime, etc. A typical flow glass operation typically necessitates control by two or three motors, which is to ensure consistent speed. If one motor goes down you need the other motor to pick it up so you have consistency and so the production process isn't disrupted. You can do that today with traditional automation systems: you have hardwiring, you have control etc. Where our new automation architecture is different is that it will embed a digital programme within the drive so the motor can run intelligently. When it comes to a new installation you save on your capex costs and you save on your engineering time. Besides, you can retrofit that into existing installations, thereby taking what is an existing piece of technology and making it intelligent. So you're also future proofing. ■

Schneider Electric

SCHNEIDER ELECTRIC

35 Rue Joseph Monier,
92500 Rueil-Malmaison - France
Tel. +33 1 41 29 70 00
www.se.com