



# NFPA/FPIC Quarterly Conference

Thursday, Dec 2, 2021

8:00 AM to 11:45 AM Central Time



## “Advanced Technologies for Eco-Friendly Fluid Power Systems”

8:00 – 8:10 AM	<p><b>Connection Time/Prepare for Event</b></p> <p>We want to make sure everyone is connected and ready to go for an informative and interactive morning. Use this time to make sure your connection is working, familiarize yourself with the platform and connect informally with other participants via the virtual networking tables.</p>
8:10 – 8:30 AM	<p><b>Welcome and Icebreaker</b></p> <p>Tom Wanke (MSOE) and Eric Lanke (NFPA) will call us to order, talk about the technology theme for the day’s session and make some other important announcements including details on utilizing the event platform and conduct an icebreaker exercise.</p>
8:30 – 9:20 AM	<p><b>Title: “Sustainability &amp; Manufacturing – Schroeder Industries’ 2030 Initiatives &amp; Products”</b>  <b>Presenter: Chris Bortnik; V. P. Engineering; Schroeder Industries, LLC</b></p> <p><b>Abstract:</b> Schroeder is committed to delivering our advanced fluid conditioning solutions in a clearly defined sustainable platform. It’s called <b>Schroeder 2030</b>. The initiatives, services and products provide fluid system designers and operators with a direct pathway to carbon neutrality and better profitability.</p> <p>Schroeder is designing and delivering the energy efficient, volume reducing solutions for high horsepower off-highway equipment or high-volume industrial fluid systems. These solutions are supported by fluid diagnostic tools and a portfolio of services that can significantly reduce and prolong the useful life of almost every fluid type. This accomplished by reducing the volume of fluid used in a system or by reducing, and in some cases eliminating, the frequency of liquid disposal. The following fluid system solutions will be discussed:</p> <ul style="list-style-type: none"> <li>• Energy-Saving (E-Drive Filtration Media): Lowest energy loss at a given level of Filtration</li> <li>• Hydraulic Reservoir Optimization with Air from Oil Filtration Solutions &amp; advanced reservoir modeling: Volume Reductions of up to 78% through air removal</li> <li>• Asset Management Filtration Station (AMFS): Smart Filtration systems to extend oil drains</li> <li>• No Oil Left Behind (N.O.L.B.): Automated and mobile PAG Compressor waste oil recycling units</li> <li>• Schroeder Industries’ Filtration Management as a Service (FMaaS)</li> </ul> <p>Case studies using <b>Schroeder 2030 Initiatives</b> for OEM and MRO customers will highlight their ability to deliver clean power &amp; cleaner energy to their customers and the consumers.</p>
9:20 – 9:40 AM	<p><b>First Break/Networking Session</b></p> <p>Use this 20-minute break to attend to details of your morning or join other attendees at a virtual table to network with audio/video. <i>Networking tables during this break will be shuffled every 5 minutes to boost networking opportunities.</i></p>
9:40 – 10:30 AM	<p><b>Title: “4 techniques to achieve Eco-Friendly Fluid Power System design for Industrial Machinery”</b>  <b>Presenter: Neal Gigliotti; Application Engineering Manager; Bosch Rexroth Corporation</b></p> <p><b>Abstract:</b> In today’s competitive manufacturing environment, having an efficient source of machine power is a necessary requirement. This presentation will discuss modern hydraulic drive technology and “new” engineering techniques that are used to achieve increased efficiencies, noise reduction, and reduced oil volume with lower cooling requirements.</p> <ul style="list-style-type: none"> <li>• Achieve increased efficiencies</li> <li>• Noise reduction</li> </ul>

	<ul style="list-style-type: none"> <li>• Reduced oil volume</li> <li>• Lower cooling requirements</li> </ul> <p>Case studies will be presented focusing on the benefits of these techniques.</p>
10:30 – 10:50 AM	<p><b>Second Break/Networking Session</b></p> <p>Use this 20-minute break to attend to details of your morning or join other attendees at a virtual table to network with audio/video. <i>Networking tables during this break will be shuffled every 5 minutes to boost networking opportunities.</i></p>
10:50 – 11:40 AM	<p><b>Title: “Electrification of Mobile Equipment – Impact and Opportunities on the Fluid Power Industry”</b></p> <p><b>Presenter:</b> <i>Marty Christianson; Market Manager E-Mobility/AE Cooling Systems; HYDAC Corp.</i></p> <p><b>Abstract:</b> The removal of the internal combustion engine in favor of an electronic option is often referred to as an electrification of the vehicle. The movement of electrification has been prevalent in the automotive industry for over ten years. We are now seeing that electrification movement gaining momentum in mobile equipment that consumes a significant amount of fluid power components. Therefore, the fluid power industry is beginning to see the positive and negative impacts on their business with this growing trend.</p> <p>This presentation will review the major market trends in electrification; for example, battery and fuel cell power sources and the required infrastructure for each. The presentation will discuss the impact on the hydraulic circuitry when the internal combustion engine and its limitation are removed. Transitional phases that most companies will go through as they evolve the hydraulics circuitry will also be reviewed. There will be a major focus on hydraulic efficiency, productivity and weight reduction. Areas of opportunities for fluid power on the work functions, as well on new opportunities based on the integration on new technologies (for example – battery cooling, hydrogen filtration and pressure sensing) will be highlighted.</p> <p>HYDAC designs and manufactures a comprehensive line of innovative and reliable hydraulic, electronic, control and fluid conditioning solutions optimized for mobile and industrial applications. They have been focusing on fluid power solutions for the electrification market including hydraulics, electronics, cooling and filtration technologies. Several solutions include the following:</p> <ul style="list-style-type: none"> <li>• Valving solutions design on efficiency</li> <li>• Filtration on hydraulics and hydrogen media</li> <li>• Cooling solutions for batteries, fuel cells and hydraulic fluid</li> <li>• Hydraulic power units to drive work functions, steering and braking</li> <li>• Accumulator solutions to store energy increasing vehicle efficiency</li> <li>• Electronic solutions for controlling the vehicle control system along</li> </ul> <p>Case studies will be presented showing increased system efficiency and reduced energy usage</p>
11:40 – Log Off	<p><b>Wrap-Up and Evaluation</b></p> <p>Tom Wanke (MSOE) will provide some summary comments on the morning, answer any remaining questions, and thank everyone for participating. Please fill out the provided online evaluation survey to gather feedback on the success of this program and to collect ideas for future programs. If you are available, feel free to jump back into your conversations at the networking tables.</p>

**Presenter Contact Information**

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NFPA is the **National Fluid Power Association**, a trade association representing more than 300 companies across the fluid power supply chain, that works to strengthen the fluid power industry by convening an effective forum of industry stakeholders, delivering

industry statistics and market information, providing opportunities for fluid power promotion and building an educated workforce for the industry. Companies interested in joining NFPA should contact:

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FPIC is the **Fluid Power Industrial Consortium**, an industry networking group established by the Milwaukee School of Engineering to engage fluid power suppliers, manufacturers, distributors and OEMs in a quarterly series of half-day seminars on the latest fluid power technology advances with immediate implementation. All NFPA members are automatically members of FPIC. Non-NFPA-members interested in joining FPIC should contact:

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**Future Programs:**

- March 3, 2022 – “Advanced Manufacturing Technologies for FP Components and Systems”
- June 2, 2022– NFPA/FPIC Quarterly Conference –Topic TBD