

BAUMA 2025 – A3 / Stand #536

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Poclain Unveils Game-Changing Innovations for Power Transmissions

POCLAIN state-of-the-art power transmission solutions are designed to enhance the performance and reliability of off-road machines, ensuring they meet the toughest demands. By integrating cutting-edge technology and innovative engineering, Poclain provides unparalleled power and efficiency, enabling its customers' machinery to operate at peak performance in the most challenging environments.

Poclain's innovation strategy is characterized by a holistic approach, aligning it with core values.

"We not only meet specific customer needs but also contribute to larger goals like sustainability, efficiency, and social responsibility. It fosters a sense of direction and commitment to making a positive difference through everything we do".

Eric Vives – Innovation Director.

In this regard, POCLAIN moves from hydraulic drive components to a technologically agnostic stance, exploring all synergies between hydraulic solutions, electro-hydraulics, or full electric technologies.

This diversification reflects the belief that each technology has its place, depending on the specific use case and the machine's work cycle. Selecting the appropriate technology therefore requires a deep understanding of machine usage patterns, highlighting the importance of having accurate usage data.

Our experience in power transmission dynamics plays a crucial role in advancing electrification. Pushing innovation further in efficiency, intelligent integration, modularity, and sustainability helps us connecting the dots between hydraulics and electric drives.

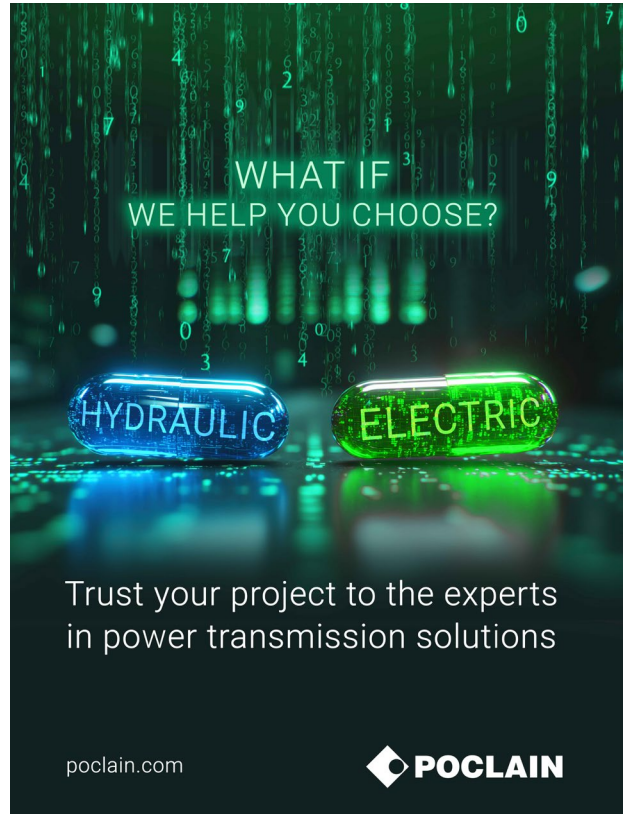
Electrification projects demand compact, highly integrated components, inspiring lighter and more compact hydraulic motors that seamlessly fit within machine architectures. At the same time, insights from electrical power curves help refine hydrostatic system management, making hydraulic solutions more precise and better suited to specific applications.

By optimizing torque, energy flow, and system design, Poclain accelerates the electrification transition while enhancing hydraulic performance. This fine-tuned energy management—critical for maximizing battery autonomy—also helps reduce energy losses in hydraulics, boosting overall efficiency.

As the business environment rapidly evolves, Poclain is gearing up for the next phase of its transformation.

The increasing convergence between hydraulic and electric technologies is underway at Poclain and fully in line with its new motto: “Poclain, Hydraulics and Beyond”.

“We want to convey to our customers that Poclain is not giving up on innovation in hydraulics while also expanding its scope, reflecting a broader, more agnostic approach to drive technologies while maintaining our commitment to performance and customer service.” - Denis Greder (Marketing Director)



In a rapidly evolving industry, OEMs face mounting challenges, including new market entrants, regionalized supply chains, and increasing sustainability requirements. Poclain’s approach is designed to support manufacturers in overcoming these complexities, offering solutions that improve efficiency, reliability, and reparability while reducing environmental impact.

The off-road and construction machinery sectors are at a crossroads, balancing electrification, sustainability, and evolving customer expectations. Poclain is committed to leading this transformation by delivering solutions that drive both productivity and sustainability.

Bauma Munich 2025 will be a remarkable event for Poclain. POCLAIN will not only showcase its latest transmission solutions for key markets like skid steer loaders, mini and compact tracked loaders, small articulated wheel loaders, mini excavators, and compaction equipment but also reveal its newest innovations. POCLAIN booth will feature an area focused on full electric vehicles and high-performance hydrostatic solutions.

Poclain reaffirms its commitment to innovation and sustainability with HEVO and eMobility—two advanced technologies designed to set new standards in performance, efficiency, and reliability for the off-road machinery industry.

HEVO: Driving Hydraulic Advancements to New Heights

Hydrostatic transmissions remain a preferred solution in numerous markets, and HEVO is dedicated to elevating hydraulic technology to meet the demands of today's challenging applications. By integrating state-of-the-art hydraulic solutions, HEVO delivers:

- Unmatched Performance and Efficiency: Enhanced power output combined with optimized energy use ensures superior operational performance.
- Technology based on the legendary reliability of the MS motor for Demanding Applications: Engineered to tackle the most challenging off-road conditions with exceptional dependability.
- Lowering consumption

eMobility: Paving the Way for a Sustainable Future

Building on our legacy of electro-hydraulic drives, eMobility represents the cutting edge of electric technology. This solution integrates Poclain's unique cam-lobe radial piston wheel motors with the latest advancements in electric motor technology, delivering:

- Exceptional Power and Sustainability: High-performance capabilities paired with environmentally responsible operation.
- Future-Ready Efficiency: Designed to help off-road machines achieve top-tier performance while adhering to strict environmental standards.



Optimizing Performance Through Energy Efficiency Excellence

POCLAIN, with four generations of hydraulic radial motors, proudly stands as the unparalleled leader in this technology.

NEW HEVO TECHNOLOGIES

HEVO is a mix of innovative technologies for hydrostatic transmissions: HEVO Booster, a local pressure amplifier, HEVO Dual Feed, a new oil distribution strategy and HEVO Edge, a new generation of hydraulic and mechanical sensors.

➤ THE HEVO BOOSTER TECHNOLOGY

Power On Demand For High Torque Applications

- Power on demand for high-torque applications, the HEVO Booster technology is engineered for wheel-based applications facing high torque peaks and requiring controlled speeds.
- Up to 800 bar to improve efficiency
- Local pressure amplifier to achieve more torque out of a small displacement.

➤ HEVO DUAL FEED TECHNOLOGY

More horsepower on the job

- New oil distribution strategy to improve the efficiency of your transmission on high speed, high power phases.

➤ HEVO EDGE

Positioned at the core of the motor, the HEVO Edge enrich data collection and optimize the transmission system's efficiency

- Master your job with new data
- New generation of hydraulic and mechanical sensors

The first Hevo motors to be released to the market will be the **HEVO Booster** in the 20,000Nm and 6,000Nm ranges, and the **HEVO Dual** in the 5,000 to 10,000Nm segment.

Full-scale production is expected to start in 2026.

HEVO BOOSTER

ULTRA HIGH TORQUE PEAK MOTOR

Torque on Demand for High-Torque Applications

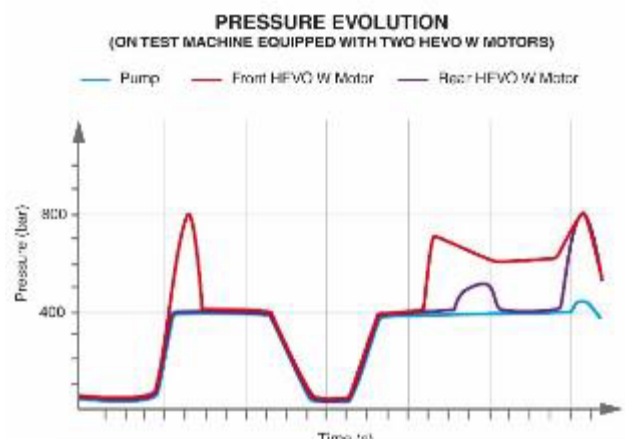


The Hevo Booster range is designed for wheel-type applications that experience high torque peaks and require limited speed. The concept is straightforward: the motor operates on a small nominal displacement sufficient for more than 90% of its usage time. When torque peaks occur, an internal pressure booster activates, potentially doubling the pressure inside the main cylinder block up to 800 bars for a short duration.

The internal components have been upgraded to withstand these high pressures, but the external hydraulic system, including pumps and hoses, only deals with the standard system pressure of around 400 bars.

OEMs can design their circuits around a small displacement motor that runs at high pressure and low flow most of the time, ensuring high system efficiency. However, the booster can engage as needed to help the transmission handle external loads smoothly without shocks.

The HEVO Booster range is purpose-built for applications that encounter high torque peaks. Designed with efficiency and reliability at its core, the HEVO Booster represents a significant leap in hydraulic motor technology.



During high torque demand phase, the pressure at the motor is increased by the booster, without impacting circuit pressure.

HEVO BOOSTER

ULTRA HIGH TORQUE PEAK MOTOR

What are the benefits of the HEVO Booster technology?

The HEVO Booster is available integrated into the HEVO motor or as a stand-alone unit that can be plugged into other hydraulic motor ranges.

- Optimized circuit design using smaller displacement motors that operate at high pressure and low flow most of the time, ensuring high system efficiency
- Smooth handling of external loads without shocks, like a CVT gearbox, for enhanced reliability and performance

Innovative Features and Benefits:



✓ **Optimized Efficiency**

Operates in a small nominal displacement mode for over 90% of usage time, ensuring maximum efficiency during standard operations.

✓ **Torque on Demand**

During high torque peaks, an internal pressure booster activates, temporarily increasing the pressure in the main cylinder block up to 800 bars. External hydraulic components, including pumps and hoses, remain within standard pressure levels (400 bars) for added safety and durability.

✓ **Upgraded Reliability**

Enhanced internal components ensure consistent performance under extreme conditions, delivering durability where it matters most.

✓ **Optimized Circuit Design**

Smaller displacement motors operating at high pressure and low flow allow for a more efficient system design, reducing overall energy consumption, downsizing components, the volume of oil needed and the need for cooling.

✓ **Smooth Handling of External Loads**

HEVO Booster's innovative design mimics the smooth operation of a CVT gearbox, ensuring shock-free handling of external loads for enhanced system reliability and performance.

HEVO Booster allows a machine, such as a compactor, to operate with two 1.4L displacement motors instead of 2.8L today while maintaining full functionality. This reduces hydraulic flow requirements, minimizing associated losses, simplifying the machine architecture, and lowering fuel consumption by 22%.

HEVO Dual HIGH-SPEED PRODUCTIVITY MEETS EXCEPTIONAL POWER

The Hevo Dual is targeted mainly at tools that need to operate at high speed to achieve high productivity levels, while keeping enough torque to address high resisting loads.

The Hevo Dual is a two-displacement motor designed to run most of the time in its smaller displacement to maximise energy efficiency through high pressure and low flow conditions. What sets Hevo Dual apart is its ability to handle high power at high speeds for long periods of the duty cycle due to a novel oil distribution method within the motor.



Key applications include drilling machines and forestry head processors where working time is crucial.



HEVO DUAL enables tools such as tree harvesters to achieve productivity gains of over 20% and improve responsiveness.



Innovative Features and Benefits:



✓ Energy Efficiency at Its Core

The HEVO Dual is a two-displacement motor engineered to operate predominantly in its smaller displacement mode. This design maximizes energy efficiency by leveraging high-pressure, low-flow conditions, reducing energy consumption during prolonged operations.

✓ Higher Power and Speed - Long-Lasting Performance

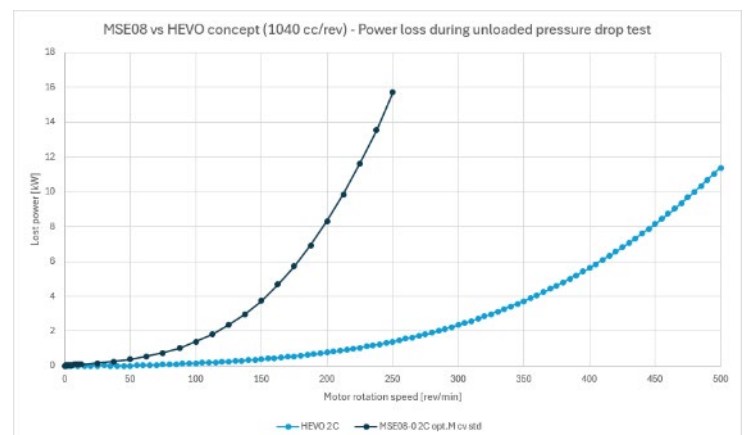
Uniquely capable of handling high power at high speeds for extended periods, the HEVO Dual employs an innovative oil distribution method within the motor to ensure consistent performance without overheating or wear.

✓ Enhanced Longevity with Equal Stress Distribution

Unlike traditional motors, the HEVO Dual's design ensures that all cam lobes and pistons actively produce torque during each revolution, even in small displacement mode. This even stress distribution across all motor components significantly enhances durability and longevity.

✓ Tailored for Demanding Applications

Ideal for tools requiring both speed and torque, the HEVO Dual is a perfect fit for industries where efficiency and reliability directly impact productivity and profitability.



An HEVO DUAL 978cc motor delivers 120 kW in 2C and sustains full pressure of 200 bar for over 900 hours—10 times longer than any other radial technology.

HEVO EDGE Stepping up the Hydraulic Motor Technology

POCLAIN introduces a groundbreaking sensor-equipped washer, delivering unmatched control and real-time stability monitoring.

The HEVO Edge option is available on the new generation of cam lobe motors, but not only...It introduces a new generation of smart sensors coupled with a local "EDGE" intelligence that are fully integrated within the HEVO hydraulic motors. This cutting-edge design ensures the sensors are protected inside the motor, enhancing their durability and reliability.



Key Features and Benefits:



✓ Precision Control Through Advanced Architecture

An integrated control software architecture combined with cutting-edge sensors ensures precise control, heightened safety, and increased automation levels for demanding applications.

✓ Sensor-Equipped Washer for Multi-Directional Load Measurement

Positioned between the wheel motors and the chassis, this innovative washer is equipped with sensors that measure loads in multiple directions, providing critical data for enhanced machine performance and safety.

✓ Real-Time Data Integration

The sensors connect to an electronic unit that transmits real-time information to the vehicle's CAN system. This seamless data integration enables OEMs to proactively monitor and respond to operational dynamics.

✓ Enhanced Safety for Tip-Over Risk Applications

Ideal for applications with a high risk of tip-over, this system can alert the operator or automatically take control of the machine to maintain stability, ensuring safety and peace of mind.

✓ Compatible with a wide range of Poclain motors

Fully compatible with the existing Poclain's generation hydraulic and electric motors, this innovation underscores our commitment to delivering cutting-edge solutions tailored to the evolving needs of our customers.

eMOBILITY PROGRAM

Poclair's ENGAGE strategic plan has been instrumental in shaping the company's evolution, with a strong focus on sustainability and innovation.

By expanding beyond its traditional hydraulic expertise, Poclair has adopted a technology-agnostic approach, fostering synergies between hydraulic, electro-hydraulic, and full-electric solutions. This flexibility has positioned Poclair as first choice partner in delivering tailored technologies that meet the complex demands of today's market. This vision is underpinned by decades of hydraulic expertise combined with



advancements in electric and hybrid technologies, resulting in innovative solutions tailored to meet the evolving challenges of modern machinery manufacturers.

Full electric or electrohydraulic, innovative technologies bring values to your new off-highway machines whatever your market industries, like wheel loaders, multi-tool carriers, site dumpers, truck-mounted forklifts, tandem rollers, mini compact track loaders, autonomous agricultural machines and many other ones.

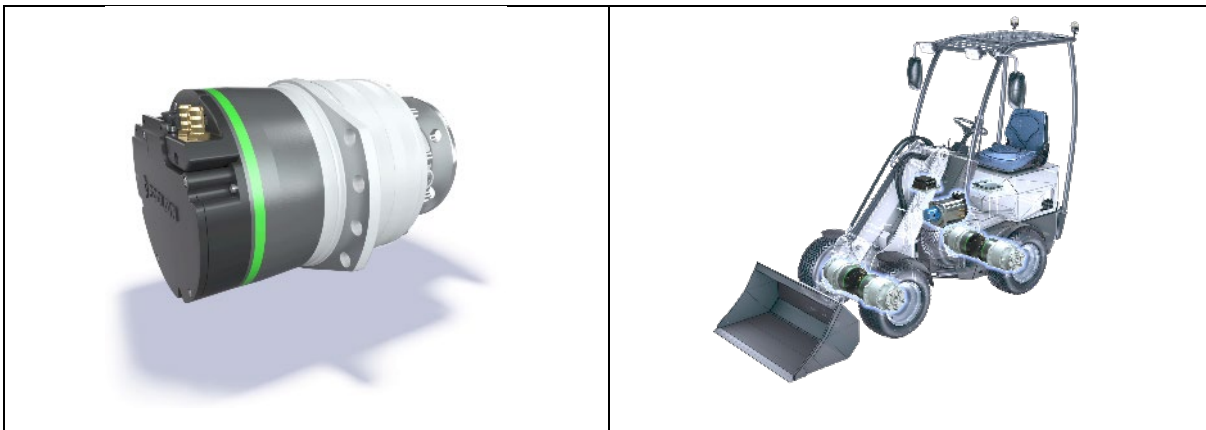
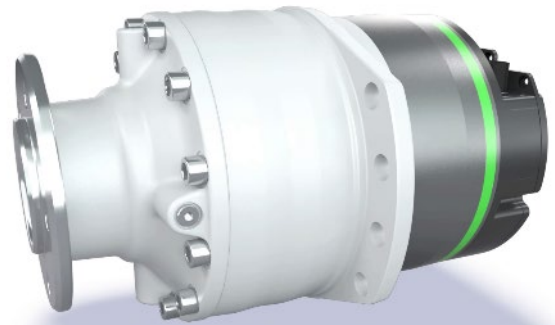
We are thrilled to showcase our high-performance electrification solutions at the BAUMA 2025 tradeshow, paving the way for compact machines to transition toward a greener, more efficient future.

eWHEEL**ULTIMATE ELECTRIC
DRIVE SOLUTION*****eWheel: Optimize Your Machine Propulsion with the all-in-one eWheel electric drive solution***

At Poclain, we believe that a complete transmission solution is a significant advantage for the future of zero-emission off-road machinery. This belief has driven us to launch an **all-in-one electric drive solution** that not only enhances the performance of your machine's off-road operations but also streamlines its development, empowering your transition to electrification and fostering your ability to innovate.

This solution simplifies electrification through fully integrated components, offering the flexibility of low and high-voltage configurations to suit diverse needs. It streamlines installation on the machine, retaining the same mechanical interface to ensure seamless integration and minimize complexity. By maximizing drivability and control, our electric drive solution optimizes each wheel's performance and delivers superior off-road capabilities.

With its ability to enhance on-field performance, reduce the number of components, and improve energy efficiency, the solution not only supports sustainability but also boosts productivity. Furthermore, it offers exceptional Total Cost of Ownership, providing long-term value to your customers and end-users. At Poclain, we are committed to delivering solutions that shape the future of off-road machinery with unmatched performance and sustainability.



Key Features and Benefits:✓ **Simple integration**

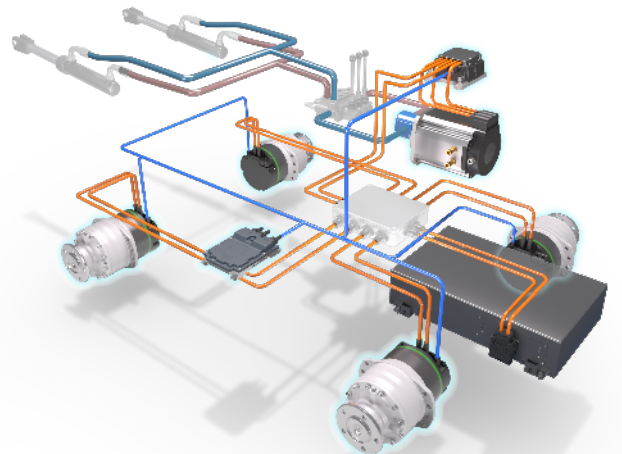
- Directly plug the DC link and CAN bus - all other connections are integrated.
- Inverter and eMotor are paired in a single module, integrating all phases and sensor signal needed for optimum motor control.
- Same mechanical interfaces as its hydraulic equivalent.

✓ **Performance under heavy duty**

- Liquid cooled to insure performance under all operating conditions
- Unique advanced derating strategy of eMotor thanks to our embedded emDrive Inverters.

✓ **Adaptable to your machine**

- eWheel modular design allows bearing support and gear boxes variants.

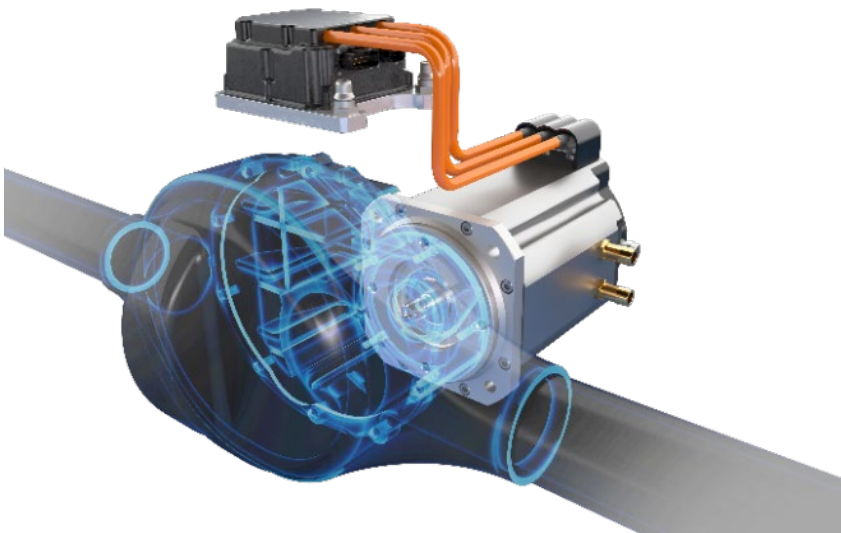


A Poclair all-in-one electric drive solution that is set to revolutionize machine propulsion.

With a **power output of up to 7kW** and a **torque of 2200 Nm at a 48V DC link**, the eWheel is specifically designed for off-highway heavy-duty applications. Its simple mechanical and electrical interfaces ensure easy integration, while its robust design guarantees unmatched efficiency and durability over all operating conditions. eWheel will be available in series from 2026.

ePOWERTRAIN ELECTRIFY YOUR AXLES

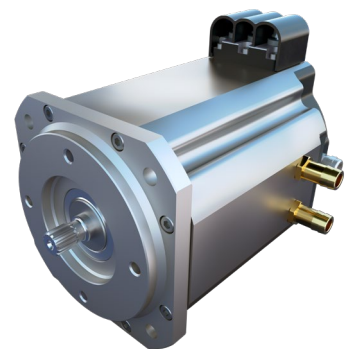
We present ePowertrain, the best-in-class solution for power and torque density.



With a continuous power of up to 65kW and a torque of 125 Nm, operating at a 48V to 850V DC link, ePowertrain is designed to unlock the full potential of your axles. Our perfectly paired inverters and eMotors ensure optimal performance and dependable operation, making ePowertrain the ideal choice for manufacturers seeking high-value solutions.



The transmission inverters are produced by Emsiso, our new company based in Maribor, Slovenia, which specialises in high power density inverters for both low and high voltage systems covering a range of 5kW to 100kW. Our Maribor location has developed an extensive system functional safety expertise over its 15-year existence, and the e-Wheel transmissions comply with the ISO 25119 standards for vehicle safety.



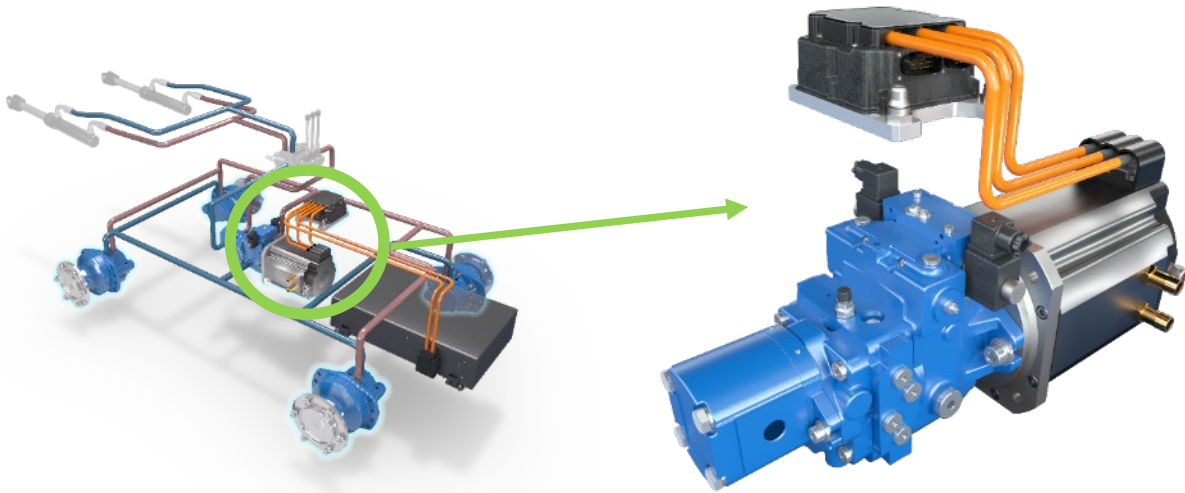
The e-Wheel transmission e-Motors are designed and produced by Moteg; our new majority-owned competence centre located in Flensburg, Germany. Moteg specialises in compact PMSM (permanent magnet synchronous motors) which are primarily used today in electrified trucks and buses to drive oil pumps or air compressors.

eFLOW

POWER YOUR ELECTRO-HYDRAULIC WORK FUNCTIONS

Powering traditional hydraulics pumps with advanced electric technology

First in our lineup is eFlow, the smart choice for your electro-hydraulic solutions. With capabilities of **up to 150 l/min and 400 bar, operating within a voltage range of 48V to 850V**, eFlow is engineered to enhance your work functions and hydrostatic propel drives. Our perfectly paired inverters, eMotors, and pumps insure superior performance. Powering traditional hydraulics pumps with advanced electric technology, the eFlow reduces emissions, lowers fuel consumption, and minimizes noise, making it ideal for urban environments. Fully integrated and easy to install, the eFlow simplifies your operations and offers a flexible, adaptable solution for various applications.



*eFlow - The smart choice for your electro-hydraulic solution
Up to 150 l/min, 400 bar – 48 to 850V*

✓ **Best efficiency**

- Liquid cooled inverter and eMotors available on the all range Poclain's eFlow
- Spoke design PMSM rotor design for outstanding torque density
- eMotors and Inverter of Poclain's eFlow are paired in lab by our skilled engineers.

✓ **eMotor tuned to your application**

- MMA motors offer the possibility to match the best efficiency point of the motor with your application.

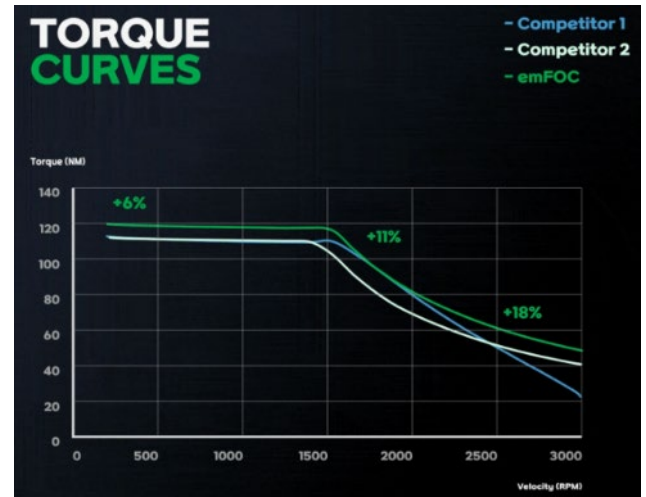
✓ **Perfectly matched close loop and/or low noise open loop pump**

- eFlow are available as stand alone or with corresponding close and/or open loop pump
- Following our 50 years track record in hydraulic, eFlow is proposed with matched Poclain axial piston pumps and/or low noise gear pumps.

eDRIVE TRANSMISSION CONTROL MAXIMIZE EFFICIENCY AND PRODUCTIVITY

Whether you are looking for electro-hydraulic or fully electric solutions, Poclain also offers advanced transmission control software compliant with ISO 25119, 13948 and 19014. These software solutions simplify the integration of our products into your machines, ensuring seamless operation and enhanced performance.

Tailored to your specific needs, it operates on Poclain's Transmission Control ECU or your own ECU with Poclain's electrification engineering support. Enjoy rapid engineering and validation times and get valuable features such as:

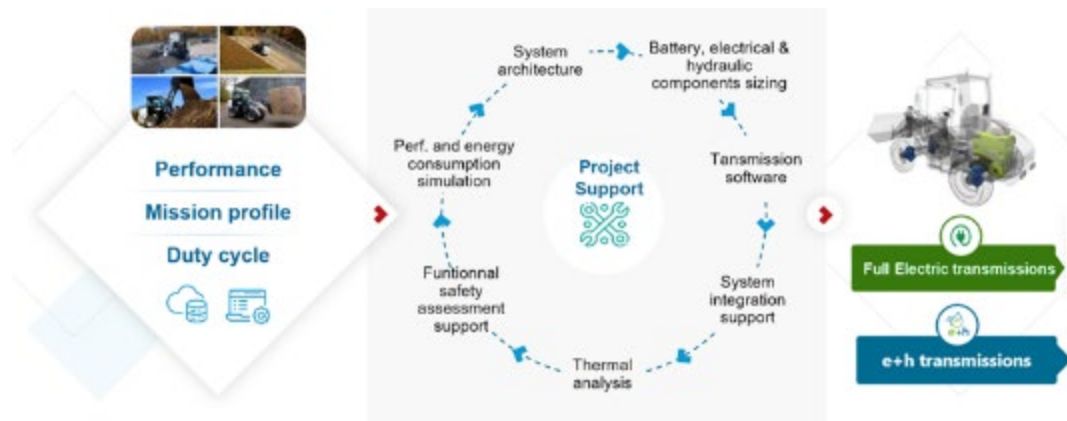


- ✓ **Electronic differential**
- ✓ **Speed and torque regulation**
- ✓ **Anti-skid/anti-slip control**
- ✓ **Park brake management (hill start, etc.)**
- ✓ **Vehicle state estimations (speed, steering)**
- ✓ **Power arbitration between propel and auxiliaries**



Electrification Engineering Services

At Poclain, we understand the unique challenges faced by engineers in the construction, agriculture, and logistics machinery sectors. With our extensive experience in your applications and electric transmissions, as well as our expertise in system engineering, we help you integrate the best solutions seamlessly and accelerate your time to market. Trust our dedicated team of engineers to turn your challenges into opportunities.



On-site Commissioning

Ensure your machine meets expectations of end-users:

- Qualify your machine in actual operating conditions
- Fine-tune and validate parameters
- Track alerts, faster problem solving
- Reduce time to market

Rely on Poclain expertise to ease the transition from prototype to mass production. From the initial startup to qualification for mass production, Poclain's experts and connected services support you in fine-tuning your new machine.



CONTACT PRESS

For media inquiries or more information about POCLAIN and the HEVO program, please contact:

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About POCLAIN: www.poclain.com

Poclain is an independent industrial group specialized in the design, manufacture and marketing of hydrostatic and electrohydraulic transmissions, headquartered in France. Its expertise, known throughout the world, enables it to operate in highly diversified markets such as agriculture, construction, environmental, material handling, the industrial sectors and many others. Today, Poclain employs 2,100 people in more than 20 countries, 10 factories, 16 commercial subsidiaries and 6 R&D centers.