



Marine Onshore **Off-Highway Drive and Motion Systems**

Market-leading motion systems by Brevini® and Fairfield® optimize machine performance while maximizing yields. Our products meet requirements for the broadest selection of applications.





People Finding A Better Way®

Established in **1904**. Employing **38,000** people across **141** major facilities in **33** countries. Shipping to **14,000** customers in **141** countries. Leveraging a global network of technology centers across **9** countries.

Our Vision

Powering Innovation
To Move Our World

Our Mission

This mission is embodied in our company theme: People Finding A Better Way. Driving stakeholder value by:

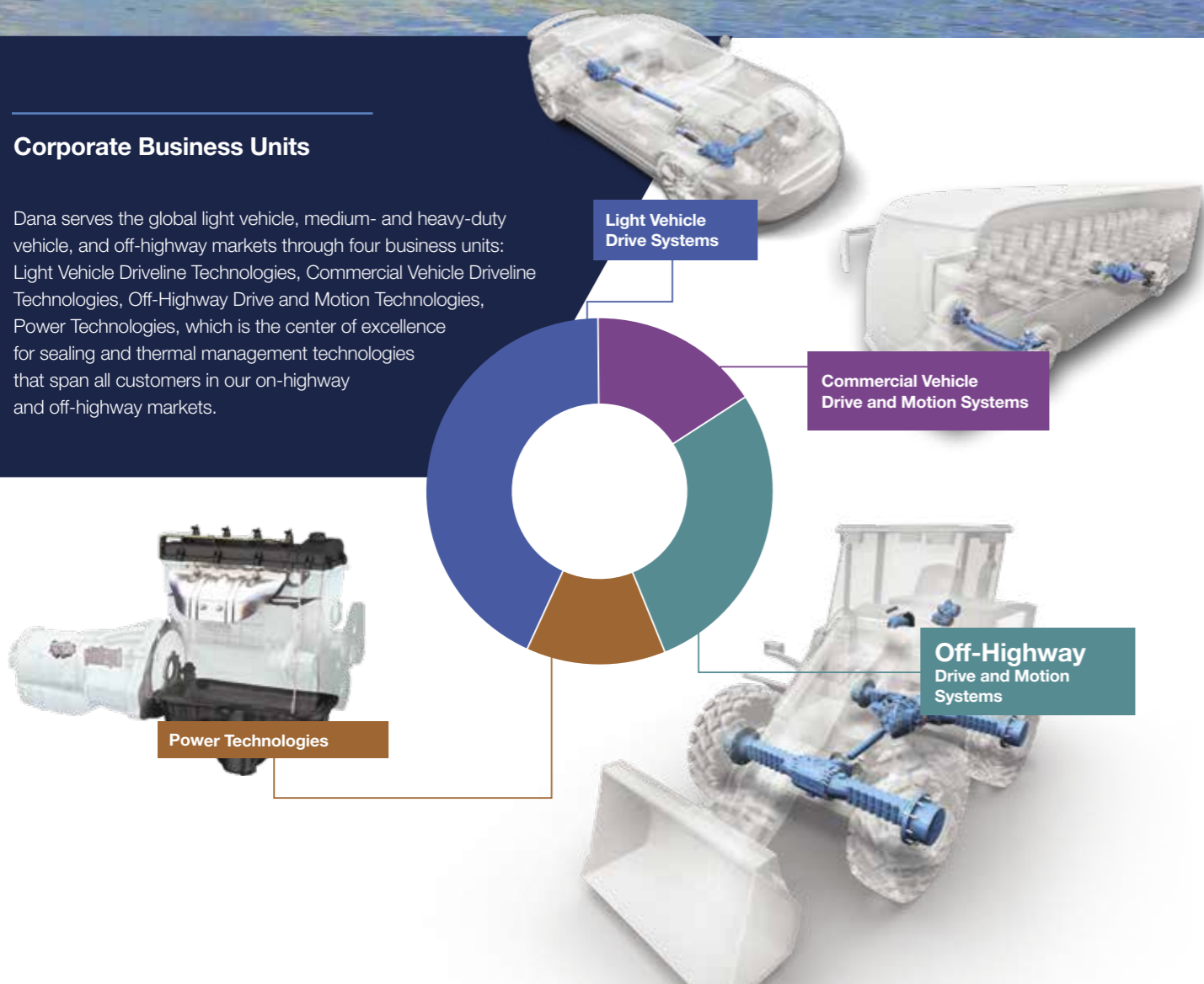
- powering vehicles and machines around the world
- shaping sustainable progress through invention and execution
- making the amazing happen wherever people live, work, and play.

Our Values

- Value Others
- Inspire Innovation
- Grow Responsibly
- Win Together

Corporate Business Units

Dana serves the global light vehicle, medium- and heavy-duty vehicle, and off-highway markets through four business units: Light Vehicle Driveline Technologies, Commercial Vehicle Driveline Technologies, Off-Highway Drive and Motion Technologies, Power Technologies, which is the center of excellence for sealing and thermal management technologies that span all customers in our on-highway and off-highway markets.



Where there is a need, Dana finds a better way.

A new era of mobility is upon us.

Emissions regulations and government policies are manifesting at an ever-increasing pace, and visions of vehicles that reduce operating costs while enhancing productivity and safety are accelerating the need for alternative propulsion solutions.

For over 20 years, our group of highly focused engineers has been dedicated to research and development of new technology solutions aimed at electrification.

We have built a broad portfolio of award-winning, patented technologies, making us a leader in electrification.

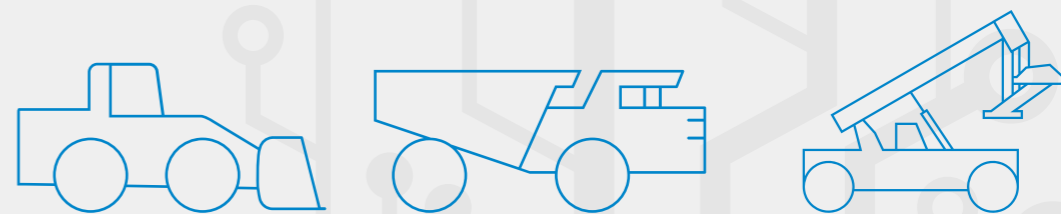
Why should you rely on Dana?

Solutions designed, engineered, and manufactured for maximum efficiency.

We approach electrification with a trained eye and an insightful, innovative perspective, utilizing market synergies to provide an advantage in electrifying offerings across multiple applications.

A component is only as good as the system in which it operates. That's why we take a systems-focused approach, seamlessly integrating our components into complete electrified systems.

We have an in-house, multi-disciplinary team of system solutions engineers who provide turnkey software and controls for our entire portfolio of technologies. This in-house knowledge and integration produces solutions that provide enhanced performance, packaging optimization, and reduced system weight. All of which results in savings to your bottom line.



OFF-HIGHWAY VEHICLES



LIGHT VEHICLE



COMMERCIAL VEHICLE



WEIGHT REDUCTION
For additional payload or battery capacity



EFFICIENCY
Reduced energy consumption means increased range and cost savings



PACKAGING
Improved vehicle integration for optimized packaging space



COOLING SOLUTIONS
Capability to integrate thermal-management solutions with power sources

Off-Highway Drive and Motion Systems

As an innovation leader in off-highway drive and motion systems, Dana continuously improves the performance and efficiency of vehicles and machines worldwide. We aim to be the global technology pacesetter in efficient power conveyance and energy-management solutions.

Enhanced Brand Portfolio Off-Highway brands

Drivetrain Systems



Motion Systems



Gears and Shifting Solutions



Thermal Management



Sealing



Leading the Charge in Vehicle Electrification

Dana is a leading drivetrain and motion systems provider for electrified off-highway applications.

Supported by a legacy of innovation in conventional drivetrains, Dana is at the forefront of integrating mechanical and electrical components for alternative propulsion applications. We embrace evolution to be a step ahead in supporting new applications as they emerge and collaborating with customers as they develop tomorrow's vehicles.

Electrification. **Delivered.**TM

Fully integrated e-Drive and e-Motion systems

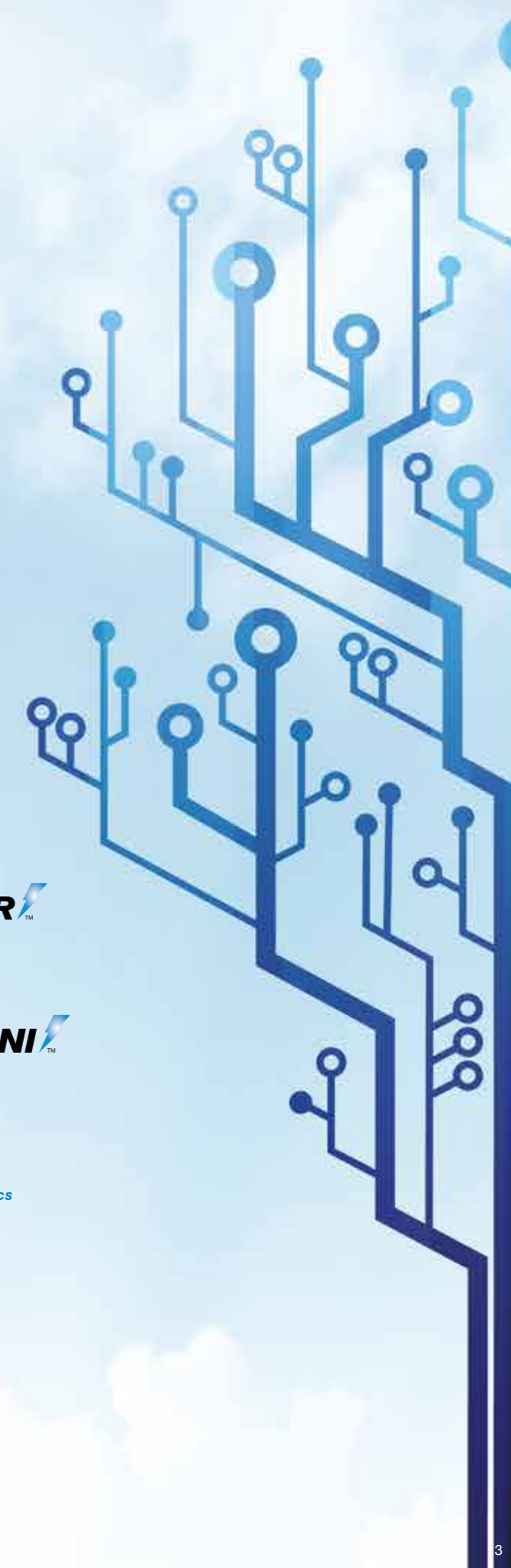
e-Drive Systems



e-Motion Systems



Electric and Hybrid e-Drive Systems



Off-Highway Segments

Dana leverages our global expertise to engineer the most advanced, customized product solutions for developed and emerging markets. Our drive and motion products serve a wide range of demanding industries, including applications for equipment with wheel and track drives as well as stationary machines.

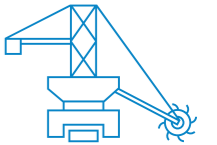


Industrial



Bulk Materials

Dana has an extensive range of gearboxes with torque ratings of up to 3 million Nm. Our qualified, experienced engineers provide optimum solutions for heavy-duty applications, and our service team delivers support for the entire life cycle after delivery.



Heavy Industry and Steel

Brevini™ gearboxes have been used in heavy-duty operations from mines to steel production for more than 50 years. Our portfolio of advanced technologies has been engineered to support increased productivity and reliability, improved operator safety, and reduced total cost of ownership.



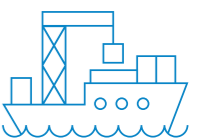
Industrial and Stationary Equipment

Our range of gearboxes and hydraulic products offers reliable solutions for all equipment within the industrial and stationary sectors. Our products enable high productivity and low maintenance costs backed by our aftermarket support and service.



Marine

Brevini™ planetary gearboxes have supported the exacting specifications and certifications of winches and cranes in the marine and offshore market for many years. We also offer a wide range of fluid power solutions that deliver safe and reliable solutions for OEM applications.



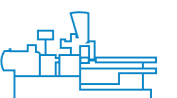
Environment - Renewable Energy

Brevini™ gearboxes for yaw and pitch drives are used by many of the major wind turbine OEMs. We provide engineering input offering sustainable and reliable solutions to meet customer requirements, while our service division has extensive experience in optimizing the performance of gearboxes over the long term.



Plastic and Rubber

Brevini™ and PIV™ brand products include single- and twin-screw extruder drives, rack and pinion drives, rack and pinion drives for injection molding machines, planetary gearboxes, and helical and bevel helical gearboxes.

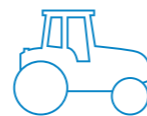


Mobile



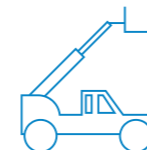
Agriculture

Our products are engineered to support increased crop yields, optimized harvesting operations, lower emissions, improved operator safety and comfort, and reduced total cost of ownership while complying with evolving emissions standards.



Material Handling

Our customized drive and motion systems enhance material-handling vehicle performance, productivity, and power. Spicer® transmissions, axles, and driveshafts are designed to work seamlessly in any vehicle to allow operators to engage, lift, and transport heavy loads with more precision.



Mining

Dana designs complete drive and motion systems to meet increasing industry demands for automation and productivity, coupled with high safety standards. Our solutions are specially engineered to maximize vehicle performance in extremely harsh environments.



Construction and Forestry

Integrated drive and motion systems from Dana enhance construction equipment performance, efficiency, and productivity with a range of solutions for vehicles ranging from 3 to 50 tonnes (4 to 55 tons). Spicer® axles, wheel drives, transmissions, driveshafts, and Brevini™ motion products are integrated with the most advanced technologies for improved machine operation on any job site, in any condition.



Marine Applications

Dana works with customers in the marine industry around the world, offering solutions for both industrial applications and self-propelled machines.

Dana's offering includes consulting, systems design, engineering, procurement, manufacturing, and aftermarket support for turnkey projects, new equipment, upgrades, and modernizations.



Marine equipment varies from onshore port applications to offshore marine environments. Onshore includes industrial and mobile applications such as ship-to-shore (STS) cranes, rubber tyre gantry (RTG) cranes, rail-mounted gantry (RMG) cranes, harbor cranes (MHC and GHC), ship lift systems, reach stackers, and straddle carriers. Offshore applications include Jack-Up systems, cable- and pipe-laying vessels, cargo ships, subsea systems, oil platform equipment, remotely operated vehicle (ROV) launch and recovery systems, and more.



Covering the needs of ports, shipyards and all offshore requirements, Dana is a one-stop opportunity for the marine industry worldwide.

Industrial and mobile solutions, including those for Reach Stackers and Forklift Trucks, are available thanks to the vast array of Brevini® motion systems and Spicer® drivetrain systems.

Moreover, with the recent acquisition of Fairfield®, providing custom gears and drives, Dana has increased its product portfolio and is even better to serve the marine industry today.

Your Single-Source Provider for port handling equipment for **Drive and Motion Systems**

The port equipment market evolves according to the constant growth of global needs and to the different goods that must be handled.

Dana has a complete range of advanced drive and motion products for port handling equipment that address the market trends and is leading it. We design and manufacture fully integrated drive and motion products for all types of harbor cranes and any other equipment used within the port handling sector.

Dedicated gearbox for harbor crane hoisting mechanisms

Dana Off-highway Drive and Motion Technologies will meet your port handling equipment requirements.

Dana's innovative products improve the performance and efficiency of port handling equipment.



Market-Driven **Innovations**

We deliver innovative technologies to meet worldwide customer demands. By anticipating market trends, Dana uses industry expertise to deliver product solutions to help customers achieve their goals.



Customized Technologies



Full-System Solutions



Low Cost of Ownership



Electrification



Global Support

Loading and Unloading Area: Ship to Shore (STS)

A ship-to-shore crane is a large dockside gantry crane found at container terminals for loading and unloading intermodal containers from container ships.

STS Cranes are generally classified by their lifting capacity and the size of the container ships they can load and unload; additional parameters for the cranes are the traveling and lifting speeds where the market is always looking to be faster and faster in order to decrease the "deadtime" and be more efficient and profitable.

A classic crane is driven by an operator who sits in a cabin suspended from the trolley; the automation process avoids the need for an operator on top on the crane, also due to the height factor. The trolley runs along rails located on the top or sides of the boom and girder. The operator runs the trolley over the ship to lift the cargo. Once the spreader locks onto the container, the container is lifted, moved over the dock, and placed on the chassis to be taken for a direct shipment or to the storage yard. The crane also lifts containers from chassis on the dock to load them onto the ship.



Brevini® Helical Bevel Helical Gearboxes – Posired 2 Series

- Dedicated design for single-drum drive
- Shape and cost customization
- Auxiliary drive system on board
- Marine painting
- Extensive ratio range
- Supports torque range up to 1300 kNm
- Spheroidal graphite cast iron housing
- High efficiency
- Diverse low speed shaft options
- Premium sealing
- Reliable operation



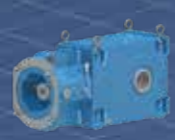
Brevini® Helical Bevel Helical Gearboxes - Posired 2 Series

- Shape and cost customization
- Emergency brake on board as option
- Bevel set can be installed in different mounting position
- Marine painting
- Extensive ratio range
- Supports torque range up to 1300 kNm
- Spheroidal graphite cast iron housing
- High efficiency
- Diverse low speed shaft options
- Premium sealing
- Reliable operation



Brevini® Helical Bevel Helical Gearboxes – Posired N Series

- Dedicated design for ENLARGED shaft center distance specific for hoisting application
- Shape and cost customization
- Auxiliary drive system on board
- Marine painting
- Two and 3 stage executions
- Supports torque range up to 1300 kNm
- Spheroidal graphite cast iron housing
- High efficiency
- Diverse low speed shaft options
- Premium sealing
- Reliable operation



Brevini® Helical Bevel Helical Gearboxes – Posired D Series

- Dedicated design for compact drive including motor adapter specific for Gantry application
- Shape and cost customization
- No need of expansion tank for upright mounting position
- Marine painting
- Spheroidal graphite cast iron housing
- High efficiency
- Hollow low speed shaft execution
- Premium sealing
- Reliable operation



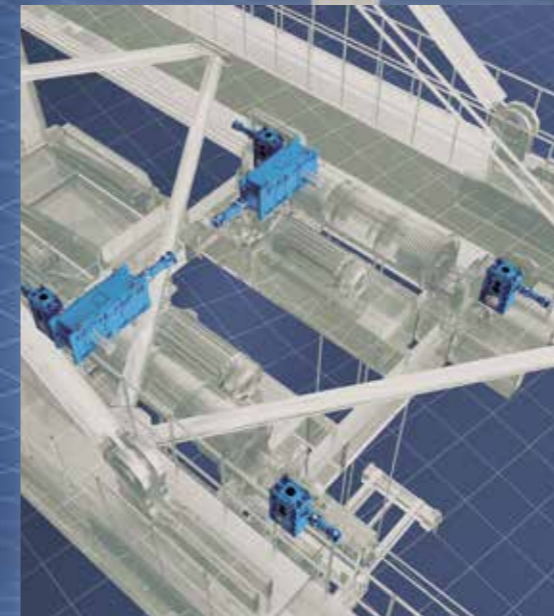
GWB® Industrial Driveshafts

- Complete product range featuring flange/ swing diameter from 120 to 1300 mm
- Superior bearing life
- High torque capacity
- Designed for ease of maintenance with service-free option
- Engineered to withstand harsh conditions, proven with a 70-year history on the market
- Minimized total cost of ownership



Brevini® Helical Bevel Helical Gearboxes

- Extensive torque range
- High efficiency
- Diverse low speed shaft options
- Low noise
- GG20-22 housing



Dana offers customized solutions to meet a range of customer needs, including modular designs and add-on accessories.

Loading and Unloading Area: **Mobile Harbor Crane (MHC)**

Mobile Harbor Cranes were developed due to technological improvements from static harbor cranes. The cranes have been modernized and made mobile, which makes them a critical type of crane within ports able to handle every type of goods. Efficient, mobile and versatile, the harbor mobile crane can be used in any port for the handling of: bulk materials, steel or scrap metal, general cargo, heavy load and containers.



Brevini® Planetary Gearboxes Slewing Drives

- Torque range up to 370 kNm
- Modular design, inline or right angle configuration
- Range of output support configurations (low angle, long and short support with eccentricity)
- Failsafe negative brakes
- Input flange for hydraulic and electric prime motor
- Compact, light solutions for a perfect fit on machine frames
- Flexible output pinion to meet customer needs
- Product marine/offshore class certification available
- Special solutions to meet requirements for low climate and ATEX certifications



Brevini® Winch Drives

- Single (for electric motor) or multiple input (for hydraulic motors) available
- Ratio range up to 6.000:1
- Max torque up to 850 kNm
- Integrated hydraulic failsafe negative brake



Spicer® Torque-Hub™ Track Drives

- Internal multidisc parking brake
- Manual disengagement device for towing
- High radial and axial load capacity bearings
- Cartridge hydraulic motors for compact layouts
- Motion control valves with different options available
- Bevel gear unit at the input for electric motor and/or cardan shaft connection available
- Special sealing system designed for severe environmental conditions
- Hub and spindle made of strength material



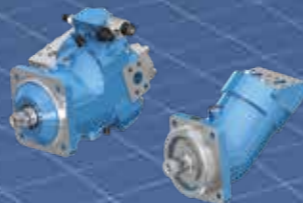
Brevini® Axial Piston Pumps

- Displacement up to 226 cc
- Medium- and high-pressure options
- Fixed and variable displacement available
- Open or closed loop circuit
- ATEX certification
- Environmentally Acceptable Lubricants (EAL fluids)
- Suitable for working in harsh and aggressive environments



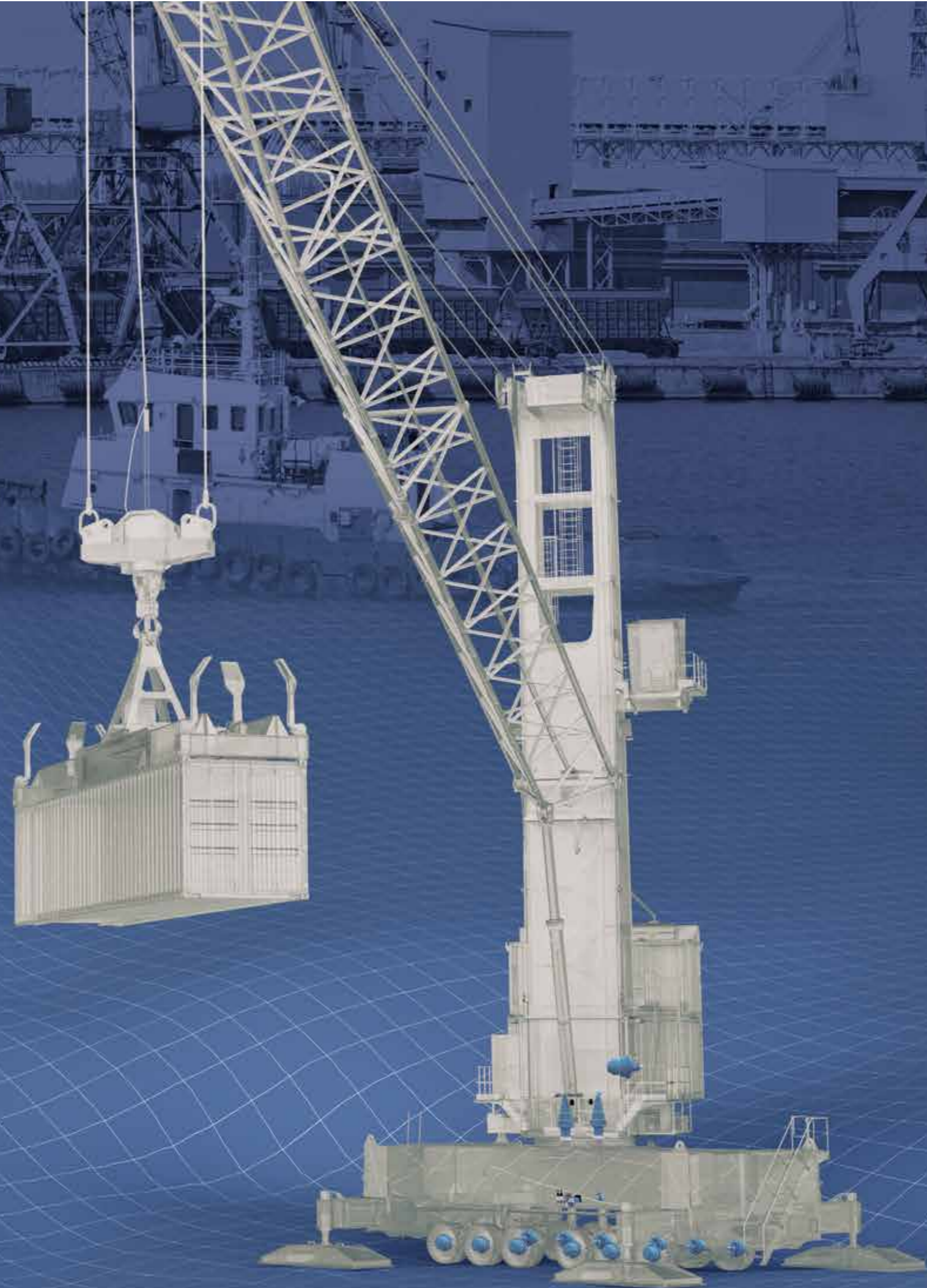
Brevini® Proportional Directional Valves

- Oil flow up to 1,000 lt/min
- High modularity
- ATEX certification
- Remote control, electronic operation
- Smooth control to improve operation functionality and accuracy



Brevini® Axial Piston Motors

- Main hoist drive motors
- Marine painting cycle
- Fixed and variable displacement
- Displacement up to 216 cc/rev
- Seven or nine piston options technologies
- Wide range of control valves
- Third-parties marine and ATEX certification
- Environmentally acceptable lubricants (EAL fluids)
- Suitable for working in harsh and aggressive environments



Dana offers customized solutions to meet a range of customer needs, including modular designs and add-on accessories.

Loading and Unloading Area: Luffing Cranes

In a shipyard luffing cranes are a fundamental piece of equipment, able to perform countless lifting and installation tasks. Used for freight loading in ports, level-luffing cranes are also used in the construction of small to medium-sized ships. Luffing cranes incorporate traveling, slewing, luffing and lifting mechanisms and perform bucket loading, container loading as well as hook loading. Level-luffing cranes are designed to keep the level of the hook

always at the exact same height while luffing. The jib moves up and down so as to move the hook inwards and outwards from the crane base. When loads near ground level are to be moved with maximum care, level-luffing is a crucial capability, for example in shipbuilding or construction. Modern cranes now implement fixed horizontal jibs with an additional "horse head" section. In this case the interconnected action of the pivots is sufficient to maintain the level.



Brevini® Industrial Planetary Gearboxes

- Pipe handling drives
- Nominal torques up to 26,000 Nm
- Inline and right angle configurations available
- Suitable for both hydraulic and electric motors
- Integrated motor adaptor
- Negative multidisc brake



Brevini® Helical Bevel Helical Gearboxes – Posired 2 Series

- Dedicated design for single-drum drive shape and cost customization
- Auxiliary drive system on board
- Marine painting
- Extensive ratio range
- Supports torque range up to 1300 kNm
- Spheroidal graphite cast iron housing
- High efficiency
- Diverse low speed shaft options
- Premium sealing
- Reliable operation



Brevini® Planetary Gearboxes Slewing Drives

- Torque range up to 370 kNm
- Modular design, inline or right angle configuration
- Range of output support configurations (low angle, long and short support with eccentricity)
- Failsafe negative brakes
- Input flange for hydraulic and electric prime motor
- Compact, light solutions for a perfect fit on machine frames
- Flexible output pinion to meet customer needs
- Product marine/offshore class certification available
- Special solutions to meet requirements for low climate and ATEX certifications



Brevini® Industrial Planetary Gearboxes – S Series

- Tensioner drive with integrated output support
- Nominal torques up to 2,170 kNm
- Multiple output shaft options
- Inline and right angle configurations available
- Suitable for both hydraulic and electric motors
- Negative multidisc brake



Dana offers customized solutions to meet a range of customer needs, including modular designs and add-on accessories.

Loading and Unloading Area: **Shipyards**

Located near the sea or tidal rivers for easy access, a shipyard is a place where ships are built and repaired including yachts, military vessels, cruise liners, and other cargo or passenger ships. Many specialized cranes are used in large shipyards for lifting – mostly ship lifting and ship transport. These cranes may also be used in dry docks, slipways, dust-free warehouses, painting facilities, and extremely large areas for ship fabrication.

A shiplift is used to dry dock and launch ships. It consists of a structural platform that is lifted and lowered vertically by a number of hoists. First, the platform is lowered underwater, then the ship is floated above the support, and finally the platform and ship are lifted and the ship is brought to the level of the quay. A ship transport is the main way to move the ship into the dry dock, by wheel or rail trolleys and mobile boatlift.

Ship-Lift System



Winch



Ship Transport System



Brevini® Industrial Planetary Gearboxes

- Trolley ship transport dedicate GB
- Complete hydraulic gearmotor solution
- Special output sealing
- Marine painting cycle
- Driving flange/pinion included
- Subsea execution up to 13 m below sea level



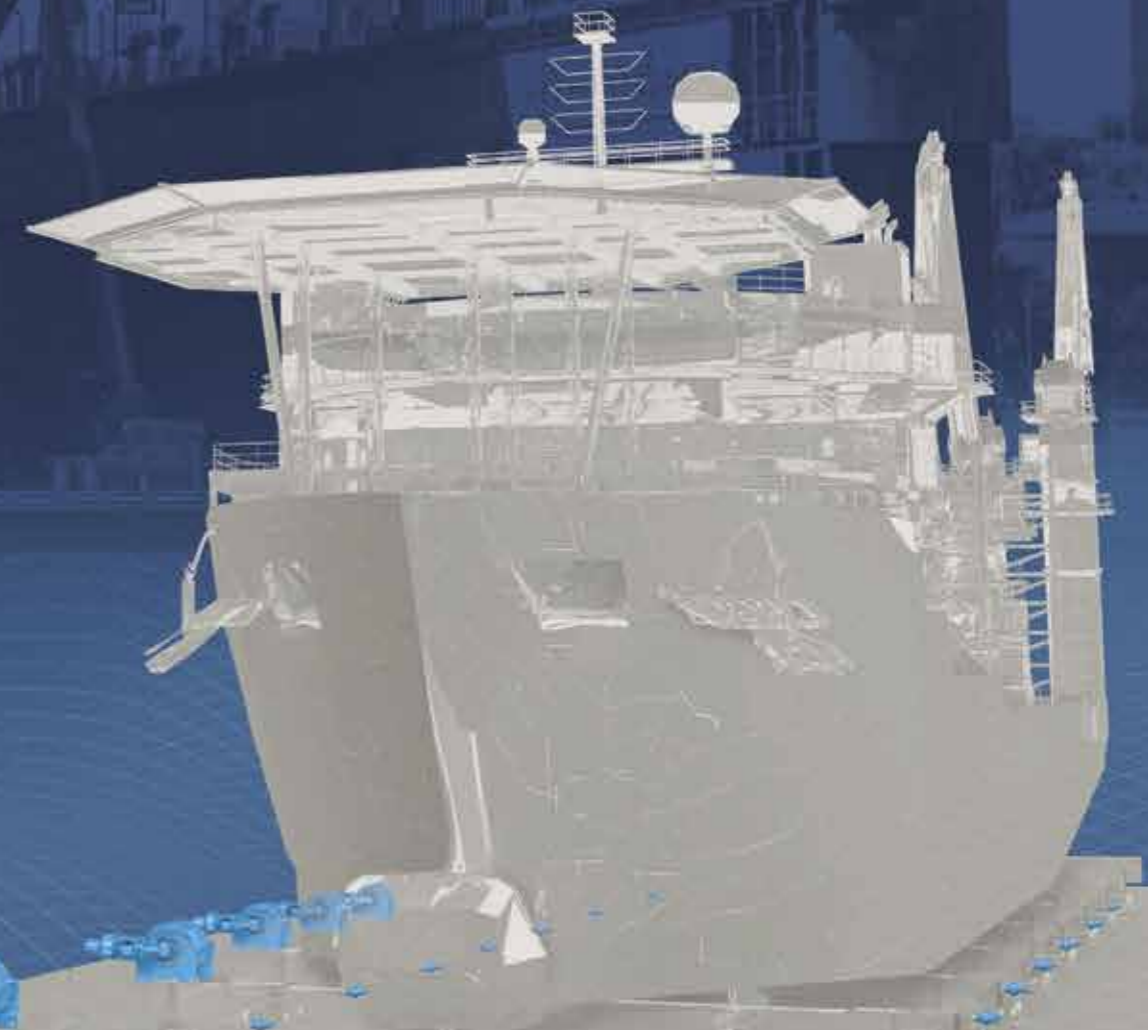
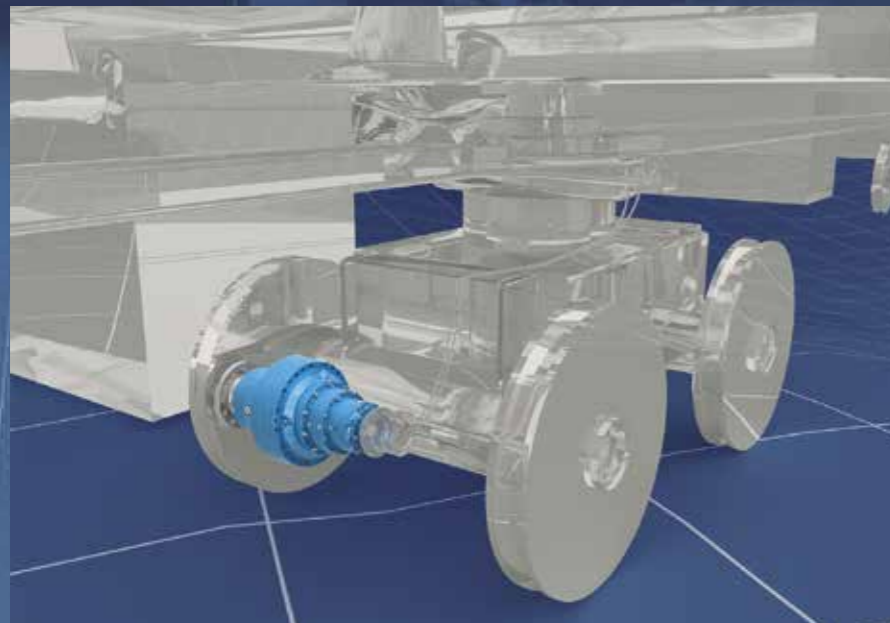
Brevini® Winches

- Technical and application support up to commissioning on site
- Customized for ship-lifts
- Dimensions and layout can be designed to meet any requirements
- Pull line up to 50 tons to meet specific customer needs
- Third-parties marine certification available



Brevini® Winch Drives

- Designed with dedicated gearboxes for large ship-lift installations
- Ratio range up to 6.000:1
- Maximum torque up to 850 kNm
- Third-parties marine certification available
- Inline and right angle configurations
- Electric motor connection available
- ATEX certification
- Integrated hydraulic failsafe negative brake and electromagnetic brake available
- Safety devices available as back stop, torque limiter, and sensors



Dana offers customized solutions to meet a range of customer needs, including modular designs and add-on accessories.

Handling Area: Rubber Tyred Gantry (RTG) Crane

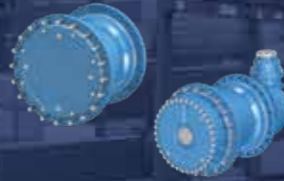
With the advantage of wheels providing easy mobility, RTG cranes are port handling equipment used in intermodal operations to ground or stack containers. They are located in the stock-handling areas of the terminal.

With RTG cranes, inbound containers are stored for future pickup and outbound containers are stored for future loading onto vessels. These cranes typically straddle multiple lanes, with one lane reserved for container transfers.



Brevini® Industrial Planetary Gearboxes – S Series

Wheels steering system drive
Ratio range up to 5.000:1
Modular design
Marine painting cycle
Others options solution on request also for 16W



Spicer® Torque-Hub™ Wheel Drives

Wheel drive and driven
Customized solution
Developed for highly efficient electric drivetrain
Lower electric consumption for lower operating costs



GWB® Industrial Driveshafts

Complete product range featuring flange/swing diameter from 120 to 1300 mm
Superior bearing life
High torque capacity
Designed for ease of maintenance with service-free option
Engineered to withstand harsh conditions, proven with a 70-year history on the market
Minimized total cost of ownership



Brevini® Industrial Planetary Gearboxes

Anti-sway drive
New concept design with bevel set on second stage
High efficiency
Low noise
Drum winch directly fixed on the output shaft



Brevini® Winch Drives

Main hoist; innovative pure planetary solution
Plug-in planetary solution
More space for easy access to maintenance and service components
Lighter weight and easier installation
Mechanical efficiency improved



Brevini® Helical Bevel Helical Gearboxes – Posired 2 Series

Main hoist
Dedicated design for single-drum drive
Shape and cost customization
Auxiliary drive system on board
Marine painting
Extensive ratio range
Supports torque range up to 1300 kNm
Spheroidal graphite cast iron housing
High efficiency
Diverse low speed shaft options
Premium sealing
Reliable operation
Low noise



Brevini® Helical Bevel Helical Gearboxes

Extensive torque range
High efficiency
Diverse low speed shaft options
Low noise
GG20-22 housing



Dana offers customized solutions to meet a range of customer needs, including modular designs and add-on accessories.

Handling and Stocking Area: Port Mobile Vehicles

Dana also provides mobile vehicle solutions for handling containers and material in port areas. We support the main OEMs with our transmission, hydraulic, mechanical and electronic products. In this segment Dana is able to support customers with a full selection of components.

Reach Stackers and Forklifts are the most common means used in this area due to their flexibility and easy management, both of the vehicles and the goods requiring handling. Such vehicles are designed to move containers from one place to another within and between the stocking and handling areas and they are one of the faster ways to achieve this.

Spicer® drivetrain systems include a range of axle options, wheel and track drives, hydrodynamic transmissions, and electronic controls. In addition, Brevini® motion products for port handling equipment include gearboxes, winches, and hydraulic components. Dana's portfolio of advanced technologies has been engineered to support increased productivity and reliability and lower emissions, improve operator safety and comfort, and reduce total cost of ownership. Dana offers customized solutions to meet a range of customer needs in the most demanding environments, developed to match the robustness and duration required for the port handling equipment.



Drivetrain Systems



Spicer® Transmissions

A variety of options for a complete vehicle design flexibility
Smooth shift, driver comfort and enhanced vehicle performance
Offered with basic or electronic controls and with different efficiency packages
Converter and transmission packages available with integral, mid-mount or remote configurations



Spicer® Driveshafts

Efficiently manages added input torque and heavy loads
Designed for longer life, minimal maintenance, and lower operating costs



Spicer® Axles

Differential lock and mounting options
Inboard and outboard brake solutions
Gearing solution for improved efficiency
Modular concept



Brevini® Axial Piston Pumps

Displacement up to 226 cc
Medium- and high-pressure options
Fixed and variable displacement available
Open or closed loop circuit
ATEX certification
Environmentally Acceptable Lubricants (EAL fluids)
Suitable for working in harsh and aggressive environments



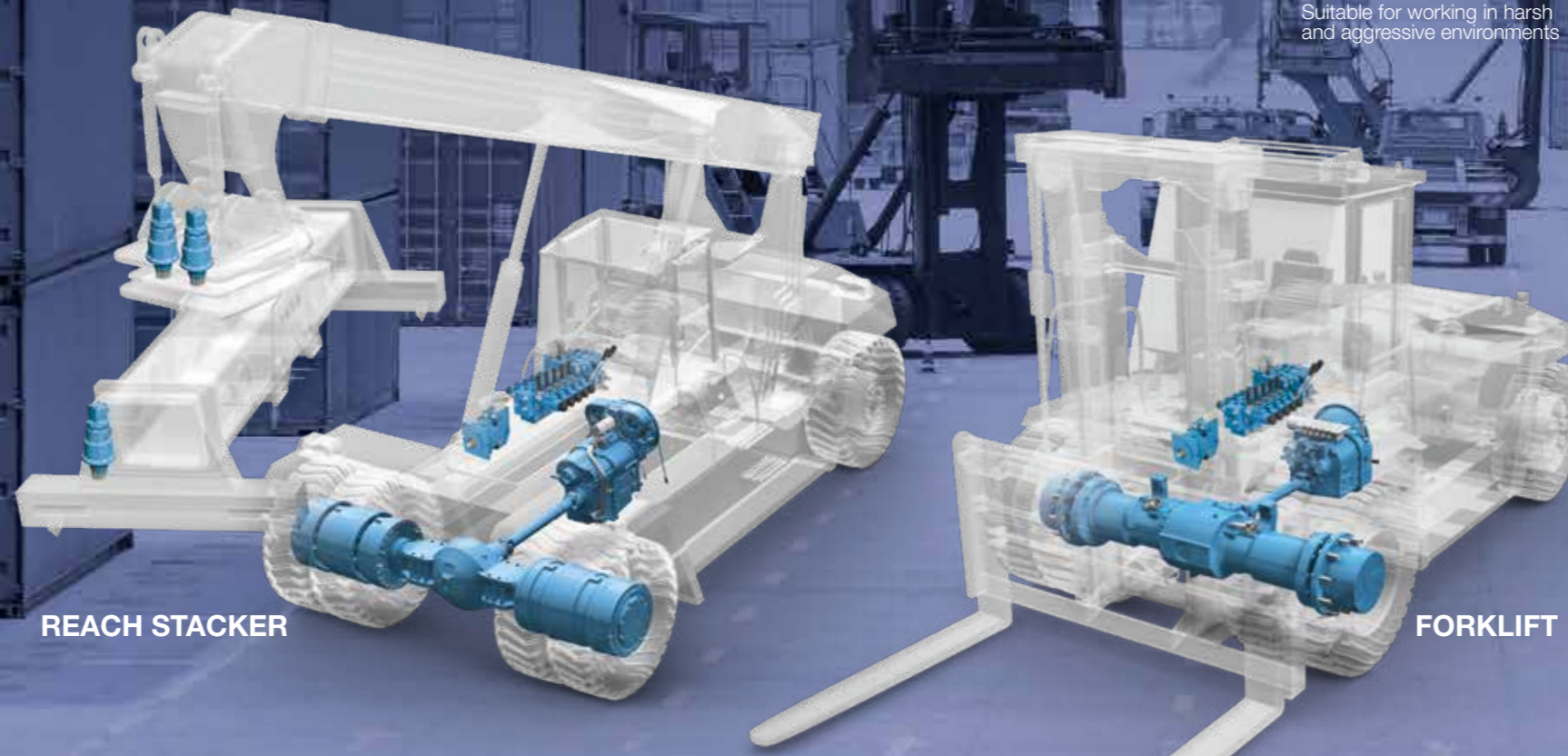
Brevini® Proportional Directional Valves

Oil flow up to 1,000 lt/min
High modularity
ATEX certification
Remote control, electronic operation
Smooth control to improve operation functionality and accuracy



Brevini® Planetary Gearboxes - Slewing Drives

Torque range up to 370 kNm
Modular design, inline or right angle configuration
Wide option of output support configuration (low lunge, long a short support with eccentricity)
Failsafe negative brakes
Input flange for hydraulic and electric prime mover
Compact and light solutions for a perfect fit on the machine frames
Output pinion for any customer needs
Product marine / offshore class certification available
Special solutions for Low Climate and ATEX



REACH STACKER

FORKLIFT

Motion Systems

Pioneering electrification, protecting the environment

As a key issue facing port operators and one of the key drivers behind Dana investment in research and development for the coming decades, electrification of port handling services is seen as a major benefit to the environment. Global port authorities are seriously addressing the environmental issue and financing projects to ensure reduced emissions of greenhouse gases and NOx. Projects for zero-emission cranes and other cargo-handling equipment for seaports are underway in advanced nations and will undoubtedly set the trend for greener solutions that electrification can offer. Switching to zero-emission equipment also saves on costly diesel fuel consumption.

Dana is pioneering a series of initiatives in keeping with the electrification trends. Initial solutions in the form of hydraulic forklift trucks and mobile electric cranes are already available, with performance standards fully in line with handling requirements. Further developments are in the pipeline and 2019 will see the implementation of a broad range of eco-friendly systems set to raise the bar in a fast-evolving market.



Dedicated gearbox for Port handling equipment hoisting mechanisms

Dana works with the main OEMs in the Port handling equipment industry around the world. Dana is integral to the development of new solutions for all applications. Dana's wide range of Brevini® planetary products and expertise, we are able to provide a new solution for the main hoist of the harbour cranes.

The planetary drive solution offers our customers and end users all the advantages required to optimize the hoisting system.



Planetary gearbox in rotating housing version direct installed plug-in into the drum

Nominal ratio 45

Monitoring Vibration sensor on input bearing as standard for maintenance control

External disk brake mounted on elastic coupling on input shaft

Lifetime according to FEM class T7

Option for External cooling system if needed



LESS WEIGHT ON THE TROLLEY
LESS POWER TO MOVE IT

NO GEARBOX/MOTOR ALIGNMENT ISSUES

NO GEARBOX OUTPUT FLANGE/COUPLING

MORE FREE SPACE ON TROLLEY

COST RELATED BENEFITS

TYPE	SELW4013	SELW6003	SLW8503
T nom [Nm]	57.160	74.500	104.630
T max [Nm]	105.000	112.200	126.160
Ratio [i]	45.87	45.87	43.61
Drum spigot Ø [mm]	470	550	580
Drum fixing pitch Ø [mm]	520	590	630
Drum fixing bores Ø [mm]	26	26	26
Structure spigot Ø [mm]	325	370	420
Structure fixing Ø [mm]	370	430	470
Structure fixing bores Ø	M24	M24	M24

INNOVATION

Port Equipment

Brevini® planetary drives and helical gearboxes, along with Spicer® cardan driveshafts and Fairfield® gearboxes are operating around the clock in ports all over the world, loading and handling enormous containers onto ships.

In many ports, harbor cranes are the pillars of the logistics chain. These cranes are used in heavy-duty industrial processes such as loading and transportation of containers.

Both Fairfield® and Brevini® gearboxes and slewing gear drives operate smoothly and accurately to rotate the fully loaded cranes. With global expertise in the design and manufacturing of highly efficient technologies, Dana's extensive portfolio of products designed for onshore applications includes planetary and helical gears units, winches, and winch drives along with hydraulic solutions such as axial piston pumps and motors, proportional directional valves, and electronics.

Boat lifts and straddle carriers

Ferry ramps

Mobile harbor cranes

Rail-mounted gantry (RMG) cranes

Rubber tyred gantry (RTG) cranes

Ship lifting systems

Straddle carriers

Ship to shore (STS) cranes



Boat Lifting



Ship to Shore (STS) Crane



Rail-Mounted Gantry (RMG) Crane

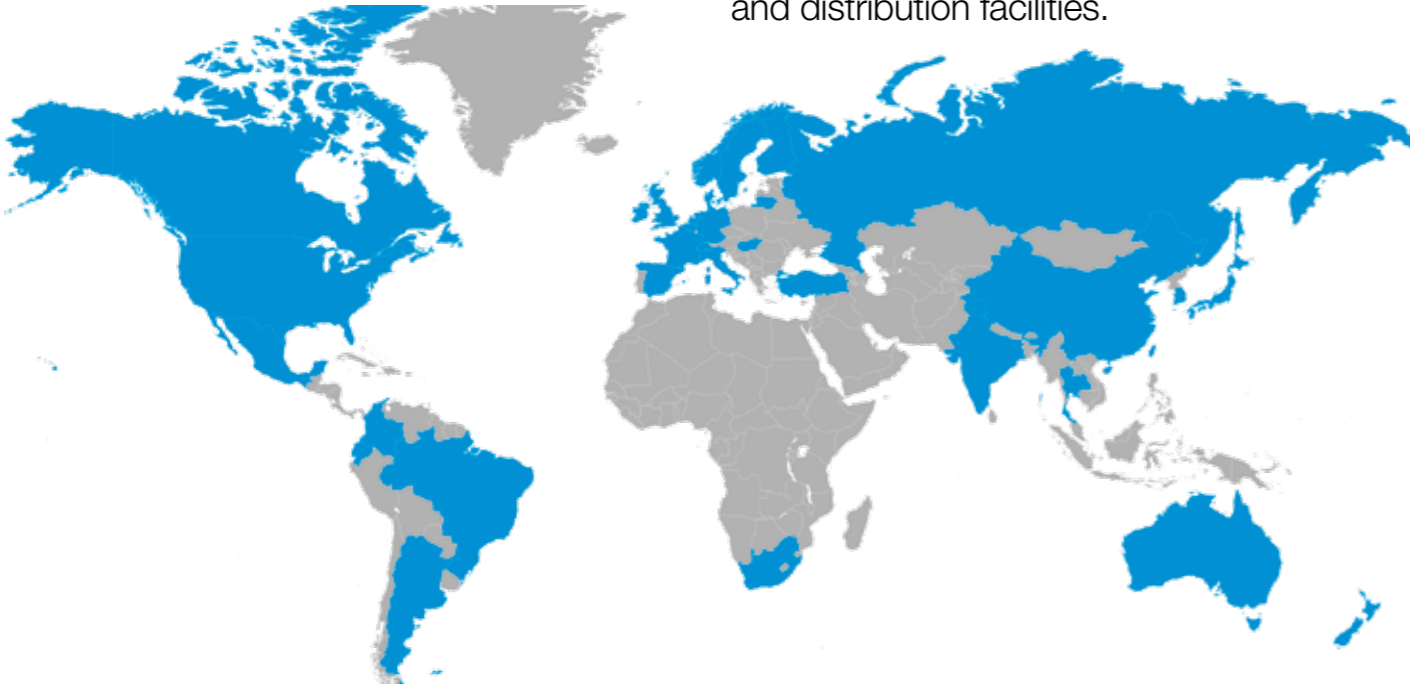
Global Strength

One of the ways we create value is by **positioning** our technical and manufacturing resources where customers need us globally.

Today, that's **33 countries** on **six continents**.

To help customers achieve success, top-tier suppliers must have a global perspective that can be adapted to meet local requirements and end-user expectations.

Dana's **worldwide leadership** is the key to serving clients around the world. We bring our global expertise to the local level with technologies customized to individual requirements through a network of strategically placed technology centers, manufacturing locations, service and assembly centers and distribution facilities.



Our strength is being over six continents thanks to our global logistic network.

Aftermarket Services

Our global expertise is delivered to customers at a local level through a constantly growing and improving aftermarket network. Strategically placed service centers provide solutions tailored to individual specifications by an experienced on-the-ground support team. We meet customer needs in every region, on every platform.



Genuine parts

Dana service parts are manufactured by Dana to the same high standards as original equipment (OE), because they are OE genuine parts. When a part is replaced a complete interchangeability with existing parts provides total product compatibility, with no change in part numbers. A non-original component can lead to significant vehicle costs down the road. We protect your vehicle durability and performance.

Dana Distribution Centers

Dana's global network of distribution centers, located in Europe, Americas, Asia and Australia, offer efficient service points supporting regional customer service, inventory, logistics and packaging operations.

Danaaftermarket.com

E-Commerce Platform

A technology enabled e-commerce platform that brings Dana's global off highway network of distribution centers, products, services and premium brands to your device 24/7 to make better decisions, speed up your operations and ease doing business with Dana.

Using Danaaftermarket.com you can quickly:

- Search for part level detail
- View global availability in real time
- Place orders from your phone, desktop or tablet
- Access educational brochures, videos and training
- Order management documentation communicated in real time
- API developer portal enables cross platform integration and real time data exchange

Spicer® Drivetrain catalog

The new online Spicer® product catalog features the extensive off-highway axles and driveshaft portfolio. Quickly and conveniently locate products by model type or part number through the search functionality and access to usage descriptions and technical details to select optimal products for every aftermarket need. The product database is always updated as new technologies become available.

Market-Driven **Innovation**

Off-Highway Performance Expectations

Safety

Productivity

Maneuverability

Durability

Serviceability

Total Cost of Ownership

About Dana Incorporated

Dana is a leader in the design and manufacture of highly efficient propulsion and energy-management solutions for all mobility markets across the globe.

The company's conventional and clean-energy solutions support nearly every vehicle manufacturer with drive and motion systems, electrodynamic technologies, thermal, sealing, and digital solutions.

About Dana Off-Highway Drive and Motion Systems

Dana delivers fully optimized solutions to customers in the construction, agriculture, material handling, mining, and industrial markets.



Dana.com/oh
Dana-industrial.com/contact-us

Application Policy

Capacity ratings, features, and specifications vary depending upon the model and type of service. Application approvals must be obtained from Dana; contact your representative for application approval. We reserve the right to change or modify our product specifications, configurations, or dimensions at any time without notice.

