

50 YEARS OF SUCCESS... REFLECTING FORWARD: 1966-2016

COMPANY PROFILE



Since 1966, Shawcor company Canusa-CPS has been a global leading developer and manufacturer of specialty pipeline coatings for the sealing and corrosion protection of pipeline joints and other substrates.

Engineered for high-quality applications in even the toughest environments, Canusa-CPS high-performance coatings protect against a range of challenges, including corrosion, extreme temperatures, mechanical damage and more.

As oil and gas fields are developed farther from final consumption markets, onshore gathering, transmission and distribution pipelines are not only getting larger, but are increasingly placed in a variety of challenging, remote locations. And as oil and gas continues to be sourced from offshore fields, offshore pipelines are growing in number and length and are being laid deeper, with increasingly high operating temperatures.

To ensure consistent, safe and efficient performance in these increasingly extreme environments, Shawcor offers a complete range of field-applied coatings and services compatible with any mainline pipe coating, including:

- **Factory Grade 3 Layer coating technology**
Provide equivalent performance to the 3LPE and 3LPP mainline coatings as per the requirements of the highest industry standards for these coating types
- **Fully Automated application equipment**
Consistent and repeatable coating application tools for use in any field environment with data acquisition capability
- **Liquid-applied epoxy coatings**
Tailored corrosion protection solutions suited to various construction methods, pipeline design parameters and service conditions



- Mechanical protection systems**
 Pipeline coating protection for severe construction methods including directional drills or backfilling operations



- Heat-shrinkable sleeve systems**
 Variety of products for field girth-weld corrosion protection in offshore and onshore applications



- Custom-engineered polymers**
 Specialty adhesives for corrosion protection in two- and three-layer coated pipelines, seismic cables and heat-shrink tubing



- Insulated pipe sealing**
 Heat-shrinkable sleeves, casing products and accessories for high-performance sealing protection



- Visco-elastic coatings**
 Self-healing adhesive wrap systems for pipeline corrosion protection, rehabilitation and creep resistance



- Field-friendly tape systems**
 Durable adhesive tape for excellent bonding and resistance to corrosion, chemicals and abrasion on pipes, bends, fittings, reducers and more



COMPANY HISTORY

In 1966, Shawcor company Canusa-CPS was initiated in Canada and then expanded to the United States. In the 1980's, the company was mainly concentrated in North America

In the 1990's, Canusa-CPS experienced an aggressive global expansion with a major focus on the introduction of products and services to meet local market requirements. Such standards were met by responding to customer specifications and needs, partnership agreements and international certifications such as ISO, EN, CSA...etc.

In 2000's, Canusa-CPS continued to grow to become the world's leading provider of field-applied coating systems and services. Focus shifted to higher performing products to meet the stringent customer demands and requirements associated with a growing number of pipelines requiring advanced and high temperature coating performance. This included a specific focus on the special requirements of the global offshore market, where the company became the dominant supplier of products and services, having supplied to the world's most advanced and prestigious deepwater pipelines globally.

From 2011 onwards, Canusa-CPS continued to lead the way in terms of innovation and advancement of field coating technologies with the introduction of automation equipment. The company's patented IntelliCOAT system was launched to compliment the wide range of advanced products, such as its world leading Factory Grade 3LPE and 3LPP coating systems which provide equivalent performance to 3LPE/3LPP linepipe coatings and which allow for consistent end-to-end coating performance when combined with Shawcor's leading 3LPE/3LPP coatings.

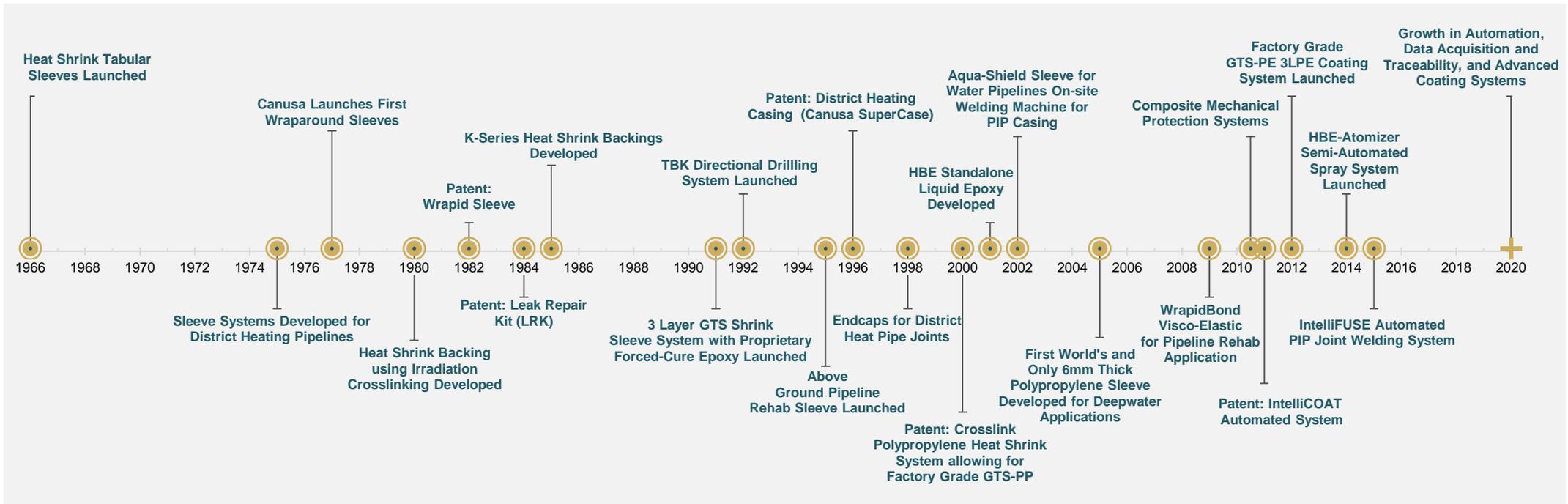
"Thank you to our experienced representatives who have contributed towards our success throughout the years. We would also like to thank them for reaching out to our customers – responding to their day-to-day business activities with flexibility, dedication and ability to provide the right solutions all the time" said Ron Dunn, Senior Vice President - Research & Development and Operations, Shawcor.

A LOOK INTO THE FUTURE

Moving forward, Shawcor will continue to focus on advancing the pipeline coatings industry, not only by continuing to introduce new coatings to meet emerging market needs and to promote consistent coating performance over entire pipeline networks as we have always done, but also by advancing the industry in terms of the availability of data rich solutions and continuing to provide a greater degree of real time traceability and integrity management of field operations for its customers.

"The pipeline industry continues to demand a greater degree of certainty, traceability and improved asset integrity. Through its Canusa-CPS brand of Products and Services, Shawcor will continue to deliver innovative solutions to increase the integrity of pipelines with an ever increasing focus on advanced corrosion protection, automation for consistency, productivity and safety and through the availability of data from field operations in real time to provide greater traceability for our customers." said Pascal Laferriere, General Manager, Canusa-CPS, Shawcor Pipeline Performance.

TECHNOLOGY EVOLUTION



The introduction of new technologies to meet emerging market needs has been a passion for Canusa-CPS over the years. This has led to significant evolution of the company's product range and to the vast number of solutions that the company has available today. When combined with our offices in Canada, the United States, Europe, the Middle-East and Asia Pacific, and our unparalleled global field service team, we can deliver the best solution for any pipeline regardless of location and of the required performance.

Today, Shawcor's Canusa-CPS products have over 2 dozen patents filed, granted and pending on various products and technologies related to pipeline joint projection and application methods. As a solution provider with fully capable field service engineering, our innovative pipe coating systems deliver maximum protection in the most extreme environmental conditions.

Our broad product lines service the following major market segments: Oil & Gas Offshore, Oil & Gas Onshore, District Heating and Cooling, Water Pipelines, Repair & Rehabilitation and Industrial Infrastructure and Supports.

ADVANCING FIELD JOINT COATING TECHNOLOGY THROUGH AUTOMATION

The introduction of the patented Canusa-CPS IntelliCOAT™ system in 2011 has brought the following key benefits to the industry:

- Achieves a fully controlled application ensuring that the coating is installed properly in the same way on each and every joint
- Guarantees consistent high quality regardless of pipe size, ambient condition or time of day
- Provides consistent productivity and ensures a higher degree of safety
- Enables greater degree of traceability and availability of data associated with the field joint coating installation process

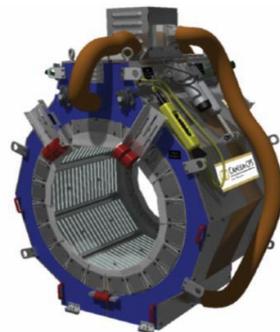


KEY BENEFITS:

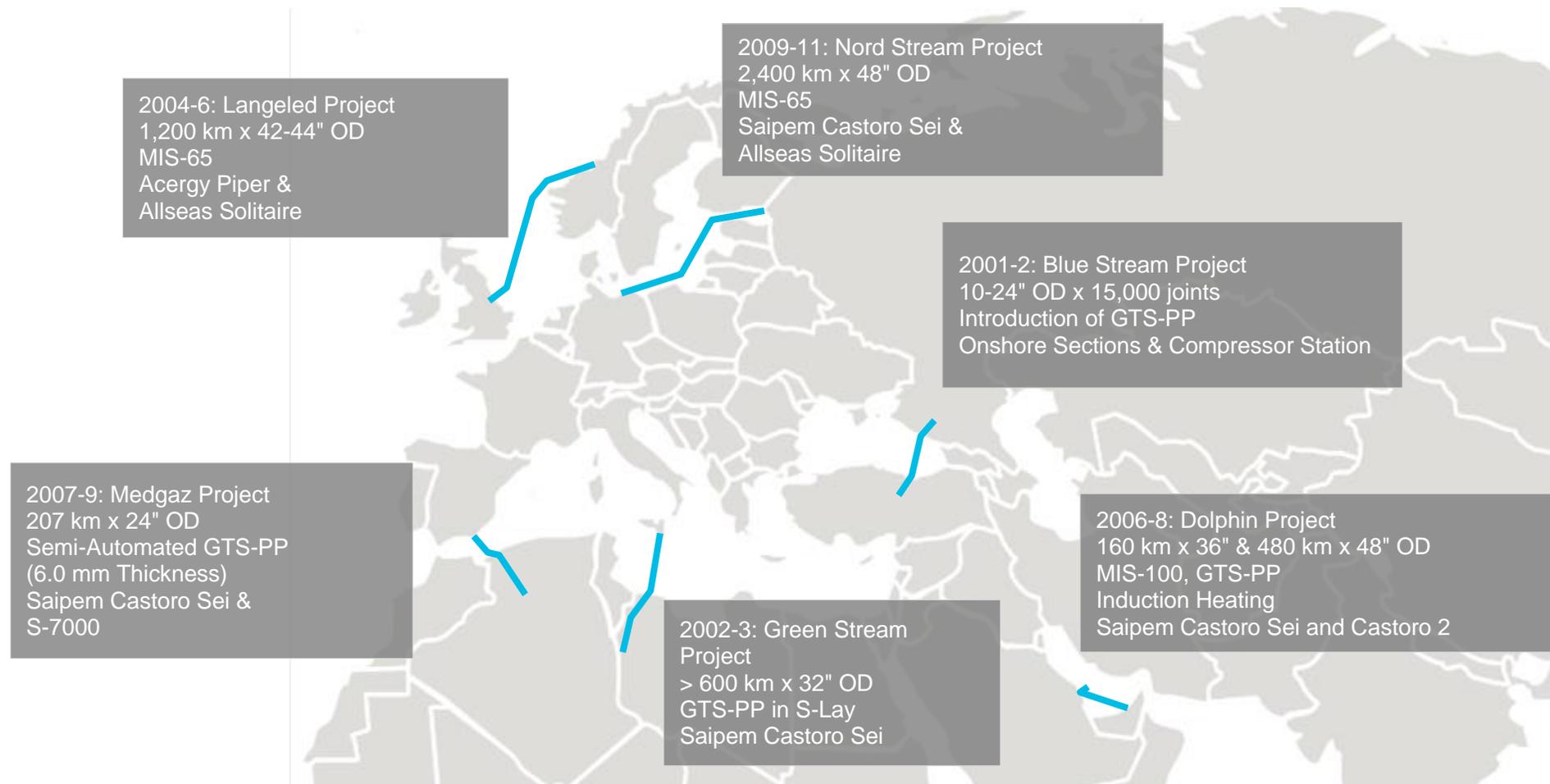
- Quality
- Consistency
- Productivity
- Safety
- Field-Friendly
- Smart Data Management

Improving Safety Through Traceable Data Solutions

- Secure customer access to cloud-based web interface
- Permanent digital records of key quality and installation data
- Real time monitoring of coating productivity
- Accessibility to coating summary reports and production statistics
- Identification of GPS locations for all installed products



OFFSHORE SUCCESS ON THE WORLD'S LARGEST, LONGEST AND MOST TECHNICALLY DEMANDING PROJECTS (2000-2010)



CASE STUDIES OF RECENT MAJOR PROJECT SUCCESSES

Polarled Project

• Year	2014 - 2015
• Contractor	Allseas
• Market	Offshore
• Owner	Statoil
• Country or Location	Norway
• Number of Field Joints	38,570
• Diameter	36"
• Product	GTS-PE



Kashagan Project

• Year	2006- 2015
• Contractor	Saipem & Bonatti
• Market	Onshore & Offshore
• Owner	Agip KCO/ NCOG
• Country or Location	Kazakhstan
• Number of Field Joints	40,000
• Diameter	28"
• Product	GTS-PP, GTS- 80 with WrapidShield PE™



Woodland Extension Project

- Year 2014 - 2015
- Contractor OJ Pipelines
- Market Onshore, Oil & Gas
- Owner Enbridge
- Country or Location Canada
- Number of Field Joints 23,100
- Diameter 36"
- Product GTS-80/ IntelliCOAT™



Onshore Rehab Project

- Year 2012 - 2016
- Contractor Various
- Market Onshore, Rehabilitation
- Owner Aramco/ SWCC
- Country or Location Saudi Arabia
- Diameter 4" to 56"
- Product WrapidBond™
Wrapid Coat™
- Op. Temp <math><80^{\circ}\text{C}</math>



Expansion of BAB-GAS Compression-2

- Year 2014-2015
- Contractor Petrofac and Consolidated Contractors Company (CCC)
- Market Onshore, Oil and Gas
- Owner ADCO
- Country or Location United Arab Emirates
- Number of Field Joints 21,625
- Diameter 6/8/16/18/20"
- Product HBE-HT w/ HBE Atomizer



DE-Connect

- Year 2012
- Contractor Bonatti S.p.a.
- Market Onshore, Oil and Gas
- Owner Shell
- Country or Location Germany
- Number of Field Joints 1,400
- Diameter 12"
- Product GTS-PP/
GTS-65/ IntelliCOAT™



EPC-2 Onshore Export Pipeline System (Banyu Urip)

- Year 2012 - 2013
- Contractor IKPT-KELSRI Consortium
- Market Onshore, Pre-Insulated Pipe
- Owner Exxon Mobil
- Country or Location Indonesia
- Number of Field Joints >7000
- Diameter 24"
- Product SuperCase, type CSC-XP



MARKET OUTLOOK – INDUSTRY ADVANCEMENTS & TRENDS

End-to-End consistency, higher performance, automated application techniques, data acquisition, and of course lower total installed cost are trending in the field-applied pipeline coating space today. Due to increased scrutiny on asset integrity and cost for new projects, as well as a better technical awareness of the available coating options and their associated performance characteristics, pipeline owners are empowered to consider the use of end-to-end pipeline coating systems.

End-to-end refers to the implementation of an entire protective coating system designed with the same material types, matching performance and full compatibility using a combination of both factory-applied and field-applied coating processes from a common manufacturer.

This approach is that of Shawcor, Pipeline Performance Group, where mainline coatings and field-joint coatings are developed, tested and deployed mutually - with no weak links at the field-joint.

Data acquisition and traceability solutions are of the newest advancements made in the industry. To effectively operate a pipeline over its entire lifetime, oil and gas majors must be able to collect, store and securely access quality assurance and in-service data for all components used to construct and operate the asset. Data sets from multiple suppliers and operating equipment must be linked together and made traceable back through the supply chain to origin. Shawcor's End-to-End approach addresses the need for reliable data acquisition and traceability as part of the coating solution to support long-term asset management. Technology can retain a permanent record of installation and quality assurance data for every coated pipe or field joint. The data is linked to the pipe/field joint number and GPS location, and can be accessed in real-time through a cloud-based web interface.

Industry advancements will continue to follow the voice of customer to meet current and emerging market demands, with pipeline construction taking place in harsher and more extreme environmental conditions. At a high level, the below chart demonstrates the evolution of field-joint coatings dating back to the 1930's. A variation of this chart was presented at the AMI FJC conference in Vienna Austria (September 5-7, 2016) by Shawcor's Technology Manager, Canusa-CPS Products.



PRIORITIZING PIPELINE PROTECTION SINCE 1966

For the highest quality in the most extreme environments, trust Shawcor's Canusa-CPS field-applied coatings to ensure long term pipeline integrity. We provide project owners and contractors with differentiated industry leading performance, reliable services, and factory grade end-to-end pipeline coating solutions and product customization with the ability to meet our customer needs.

Shawcor's Pipeline Performance Group Locations:

