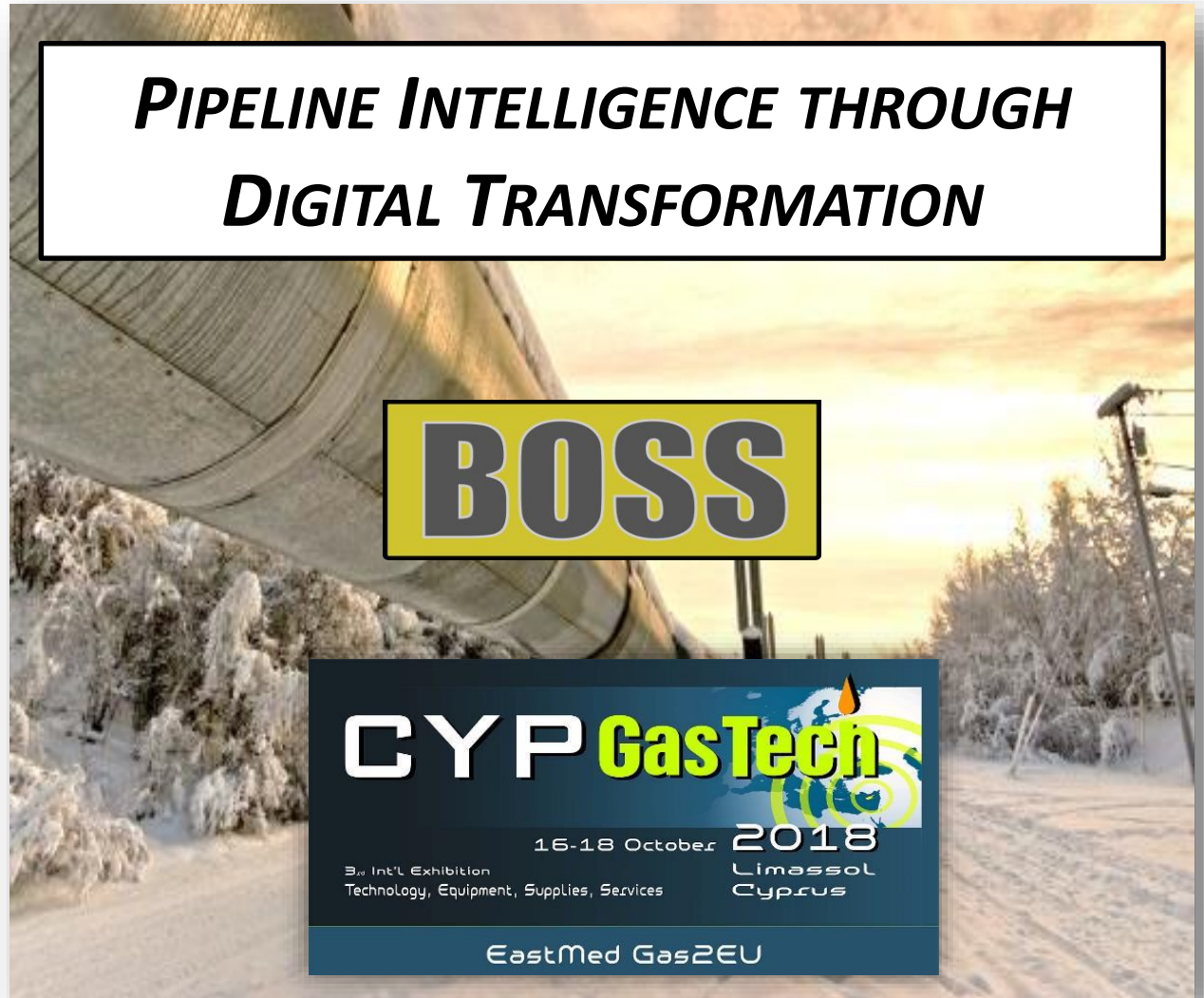




Presenting for the **INTUS Group of Companies**

Dimitris Agouridis, President & CEO
Dr. Muid Mufti, Director R&D

Proudly Servicing



Lifecycle Digital Support within Intelligent Pipeline

- Pipelines and supporting installations are critical assets for energy sustainability and economic development
- Intelligent management of vital infrastructure is instrumental in protecting public safety and environmental sustainability.

BOSS – Business Objectives Support System

Design & Pre-engineering

Routing & Permitting

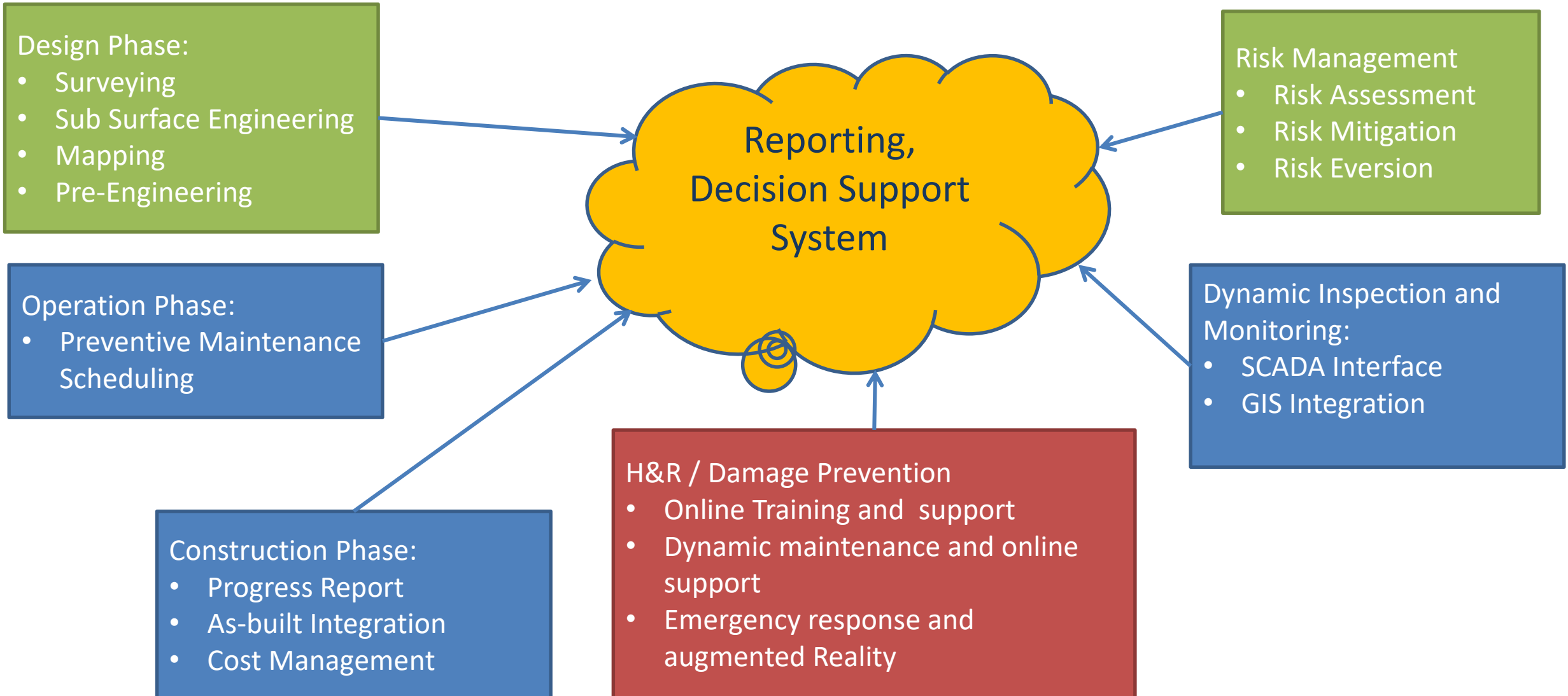
Digital Construction

Lifecycle Support
Intelligent Ecosystem

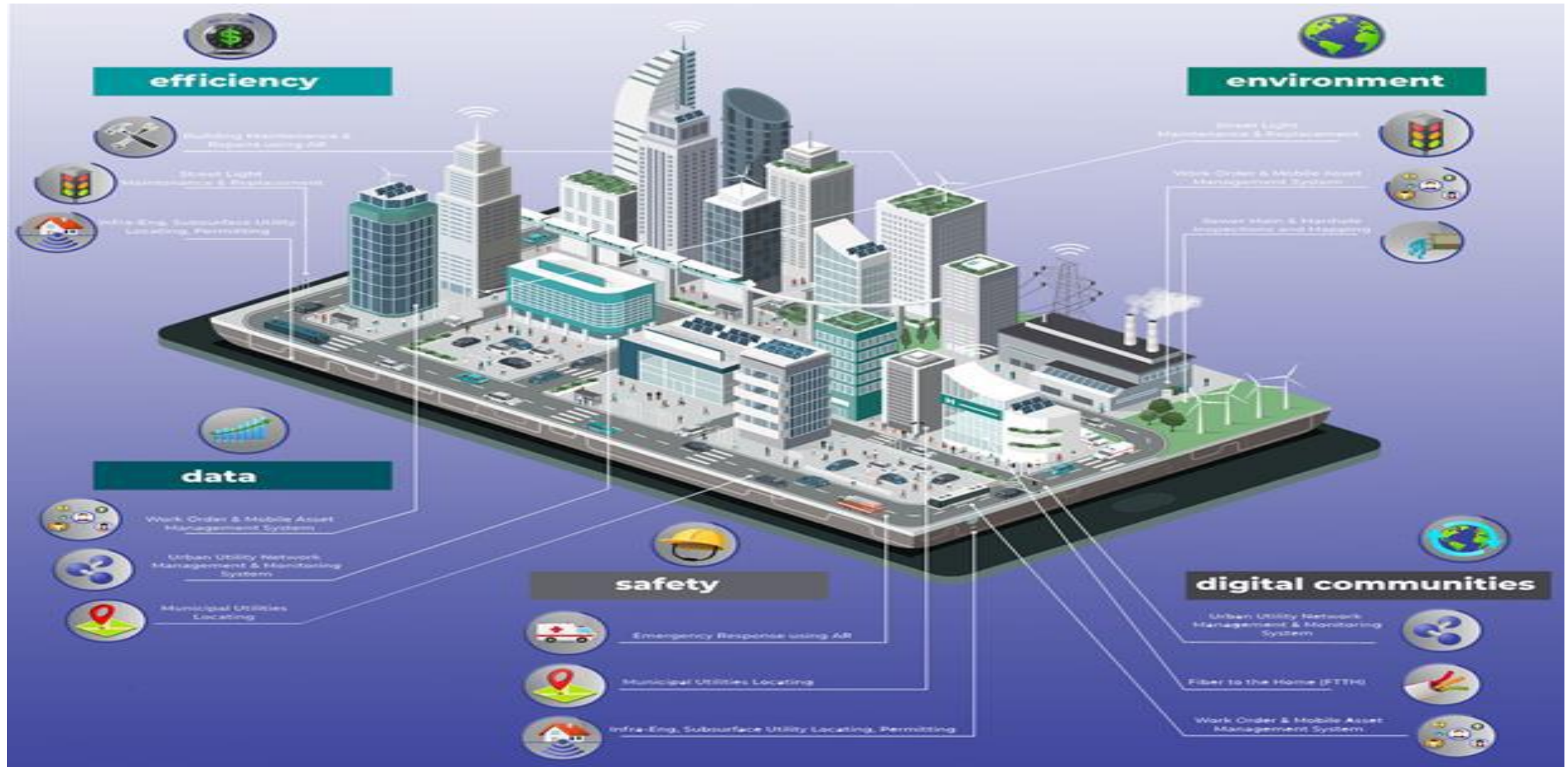
Integrity Management

Damage Prevention
Emergency & Incident Reporting

BOSS: Digital Pipeline System Design



Applicability of Technology to Life Cycle of Digital Utilities and Smart City Model

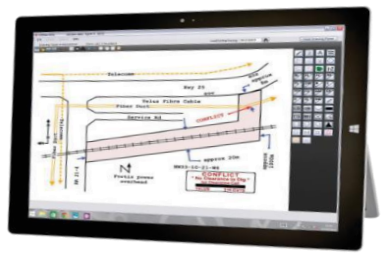
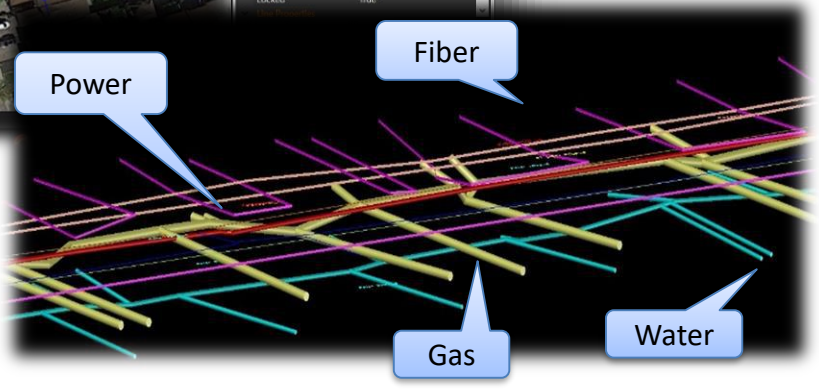
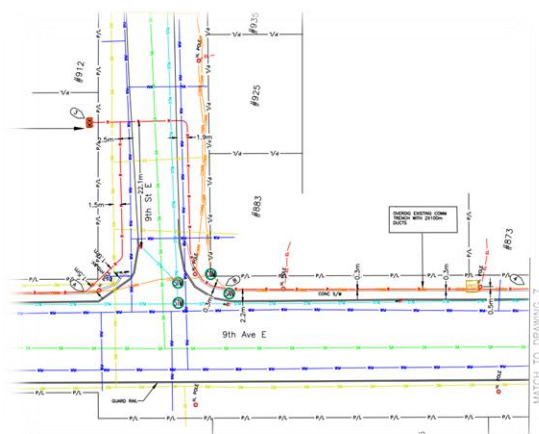
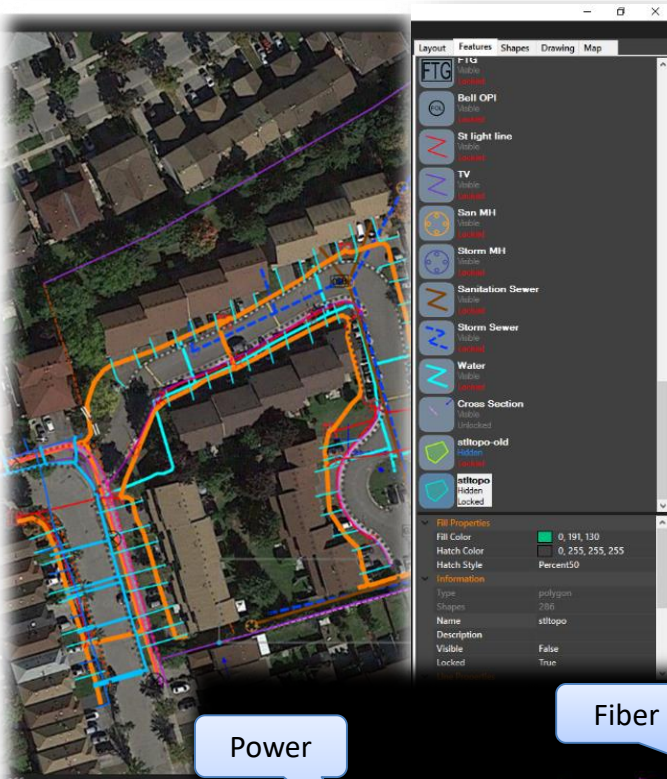


Fully Compliant with Industrial Best Practices and Technology Business Reports

- Canadian
 - CSA Z246.1 - Security Management
 - CSA Z246.2 - Emergency Preparedness
 - CSA Z247-15 - Prevention of Damage to Underground Infrastructure
 - CSA Z662
- USA
 - ASME B31.8S - Pipeline Failure, Mitigation, Prevention & Repair
 - ASME B31.4S - Liquids and Gas Pipelines
 - ASME B31.3S - Process Piping Code
- Europe
 - ISO 13623 - Design, materials, construction, testing, operation, maintenance and abandonment of pipeline systems



Technology Needs for the Digital Utilities



FELIX Field Electronic Locating Information Explorer

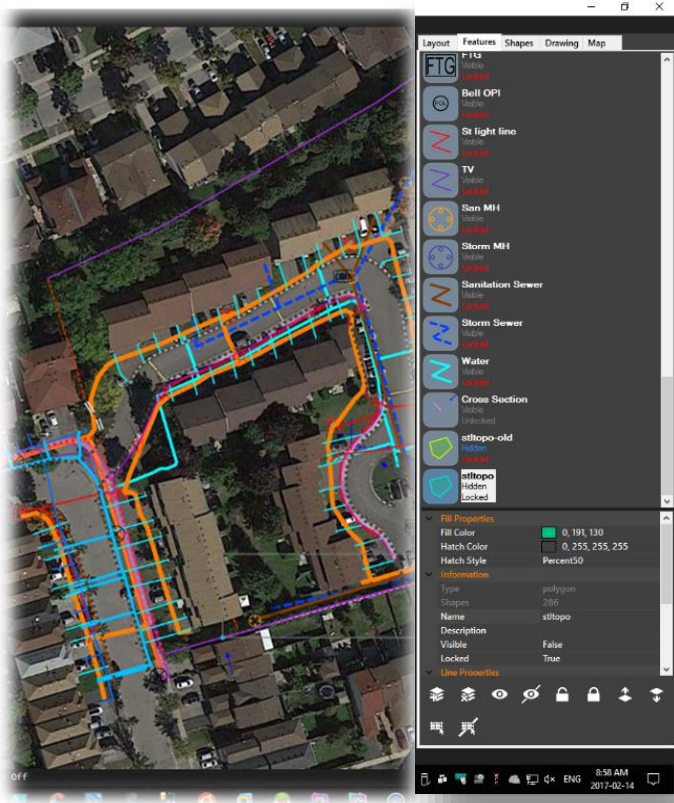
- One Call Tickets Synchronizing (Internet Required)
- Utility GIS Info Viewer
- Electronic Drawing
- As Built Mapping
- Historical Damage (Hits) & Damage Investigations
- Field Procedures & Training
- Work Order Completion

Enter your Locatarbase login details:

Username :

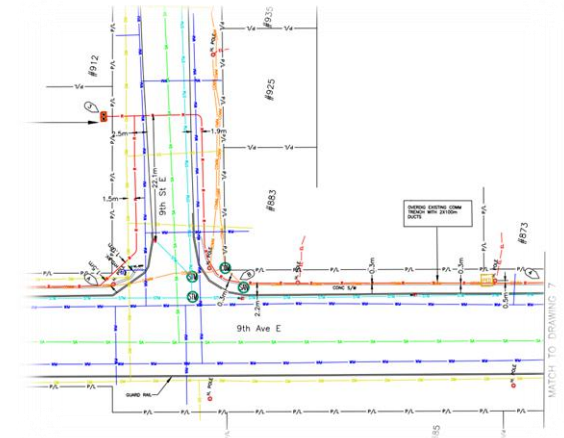
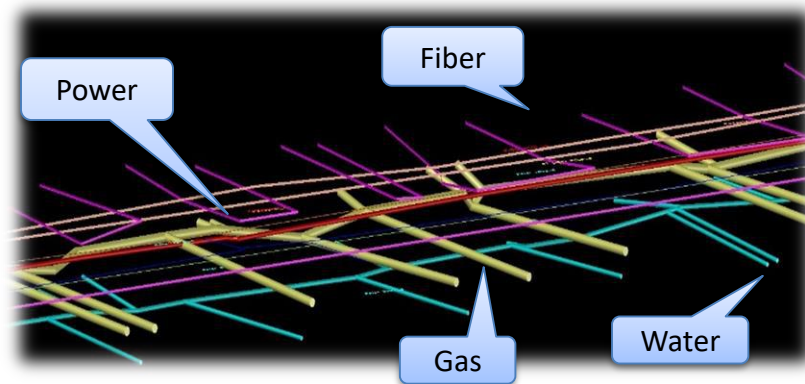
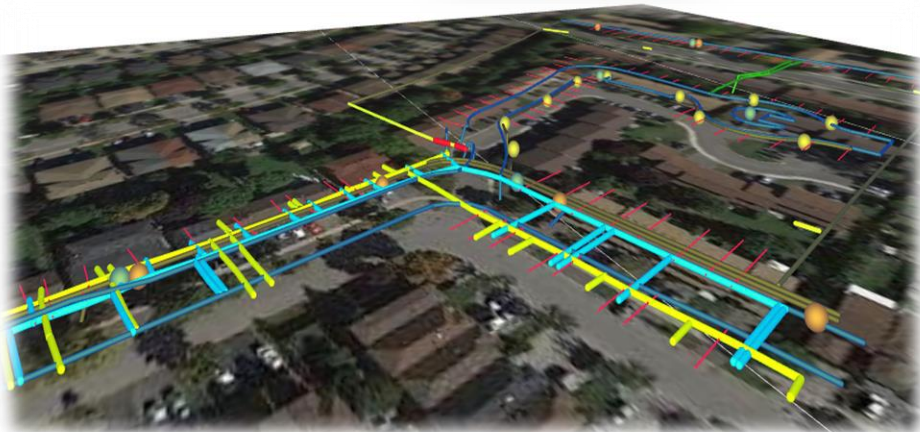
Password :

version date: September 26, 2016 id technologies



Pre-Engineering: Collecting field data via Utility locating, Inspecting and digital Mapping of all assets and deliver end-result to a GIS or CAD format prior to permitting stage for engineering planning.

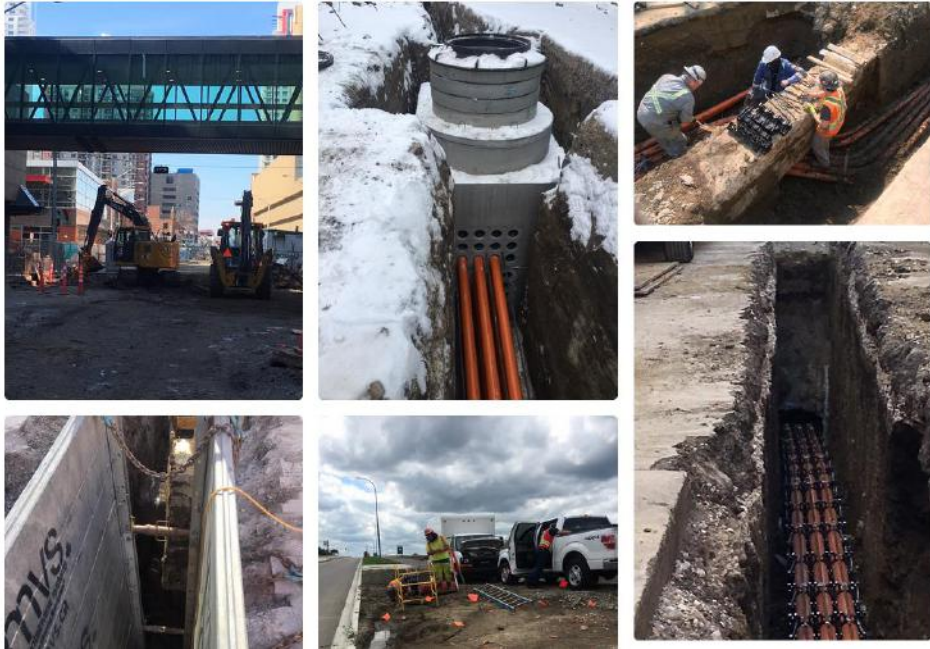
- ✓ Advanced proprietary technologies such as 3D Mapping and Augmented Reality
- ✓ Servicing Utilities, Cities, Airports, Universities and major Engineering firms across North America for more than 8 years
- ✓ International experience (USA, Canada, Europe)



BOSS Platform



Utility Construction and Installation



Fiber Optic Cable Installation and Splicing (FTH)

INTUS is installing and splicing fiber optic cable into a variety of commercial and residential buildings on behalf of major clients as well as complete turn-key fiber optic design, installation, and as-built services for carriers nationally. The OSP fiber service offerings are provided to clients utilizing our GPS tracked fleet with experienced technicians utilizing leading edge installation and test equipment to perform all work, using the highest standards of health and safety practices in the industry.

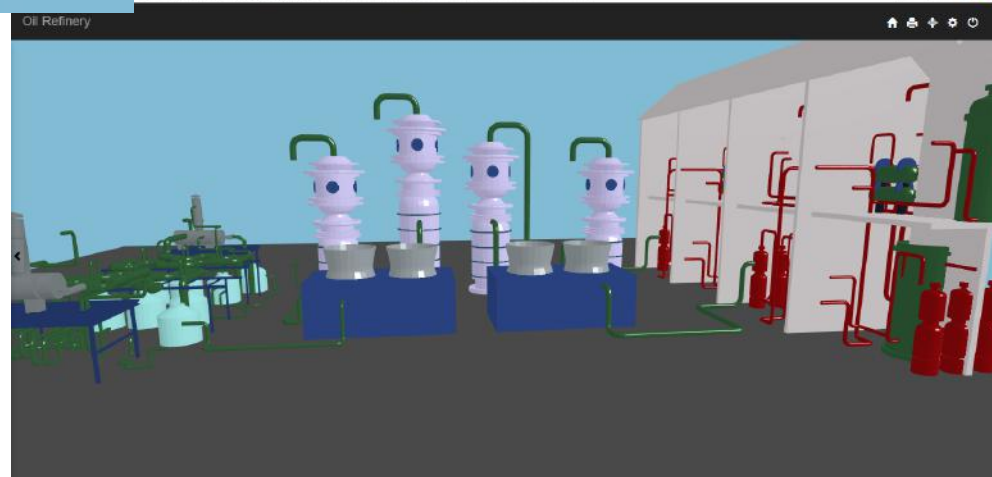
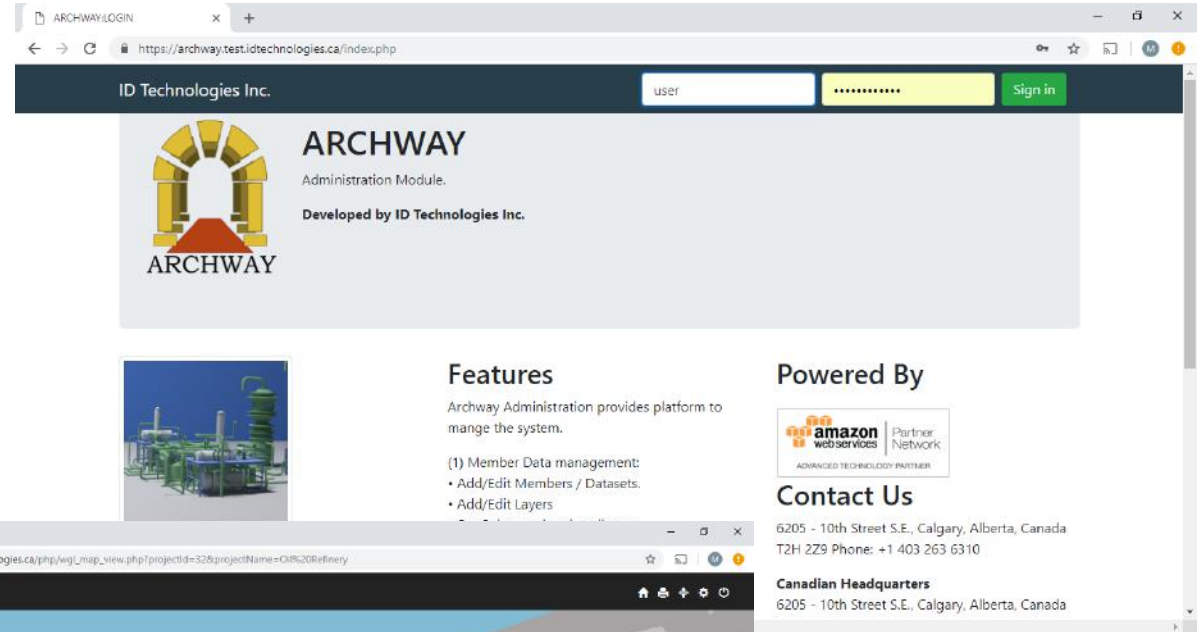
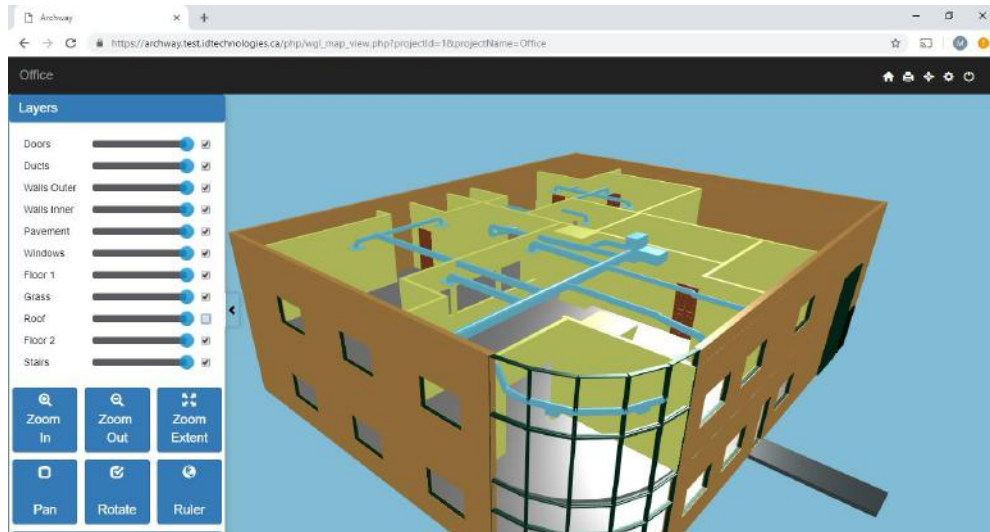
Horizontal Directional Drilling (HDD)

INTUS is utilizing the least invasive and disruptive method of cable installations to the home by employing horizontal directional drilling instead of trenching. Experienced crews man the various sizes drills in the INTUS fleet and have performed thousands of installations with minimal disruptions and no damages to property.

INTUS Construction is servicing major North American Telecoms such as Bell Canada, Telus, Bruce Telecom and more. The company employs 30 to 40 people and generates revenues close to \$3M.



Full Cycle Construction and Asset Management System



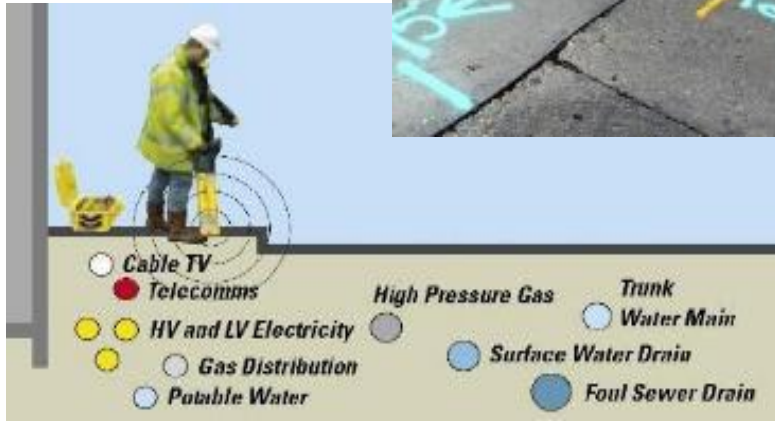
BOSS Platform



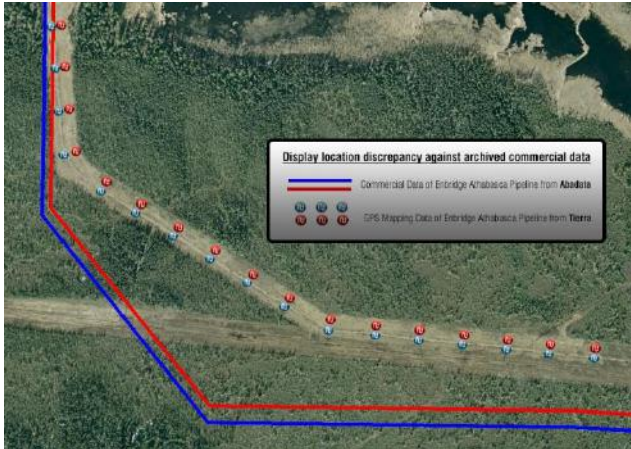
Damage Prevention /Underground Network Locating

Verification of all underground, buried Utility Assets prior to any digging activities; also known as **LOCATING** is the most essential, cost effective and highly efficient **Damage Prevention technique** in the Industry, widely used across North America and Australia. Locating is regulated and practised as the optimal method of protecting the infrastructure as well as promoting **public safety**.

- ✓ More than 700,000 locate requests annually
- ✓ Industry leading safety record: less than 1 hit per 10,000 locates
- ✓ Servicing major Utilities and Cities across North America for over 20 years



Enbridge Pipeline Depth Probing Project, Northern Alberta, Canada



Mapping of High Pressure Pipeline in British Columbia, Canada



INTUS provides stand-by safety services during installation and maintenance of gas pipelines.

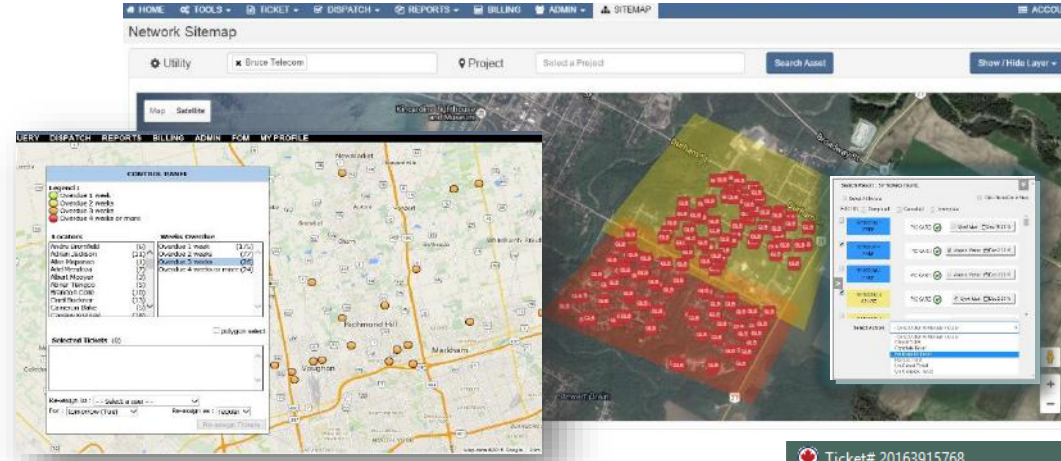
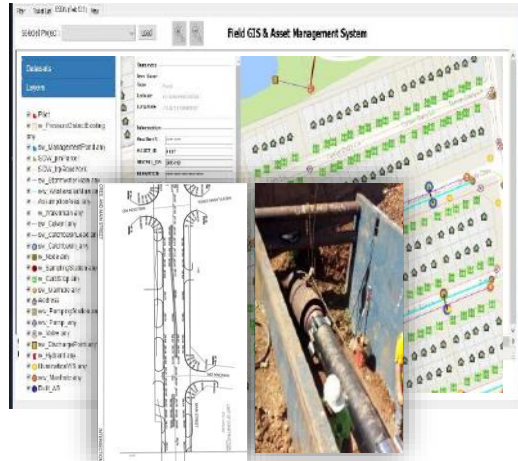
We detect & verify the location of underground buried assets prior to any ground disturbing activity in proximity to pipelines.

Enbridge Gas in Ontario is using INTUS exclusively for stand-by safety services during installation and maintenance of its gas pipelines throughout the County of Simcoe and York Region in Ontario, Canada.

- ✓ Field Inspections
- ✓ Cathodic Protection
- ✓ Gas Leak Detection
- ✓ Digital Mapping & Depth to Cover;
- ✓ Pipeline Locating & Clearing Services;

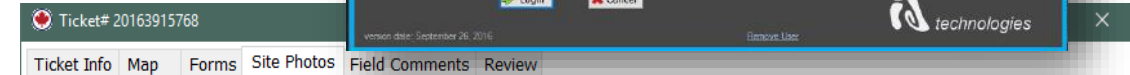
Pipeline Integrity Management

“BOSS” Operations Resource Planning



“BOSS” enables field crews to manage their daily schedule, access asset-related information and report back while on-site via an electronic work order management system with time-stamped logs, photos, drawings and a number of software & hardware tools.

“BOSS” includes powerful GIS-based operations management tools, designed to combine data from various infrastructure-related activities and facilitate real-time scheduling, dispatching, tracking, auditing and reporting of work orders of any kind. (*construction, installations, inspections, maintenance and more*)



There are no photos attached for this ticket. [Add Photo](#)



BOSS

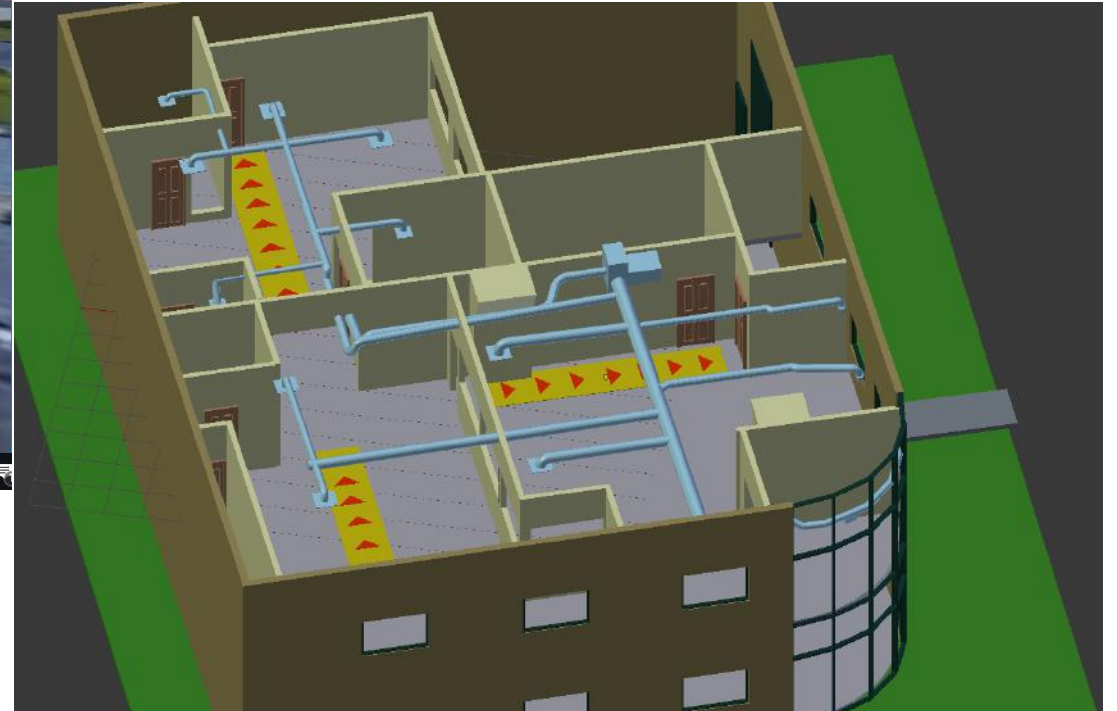
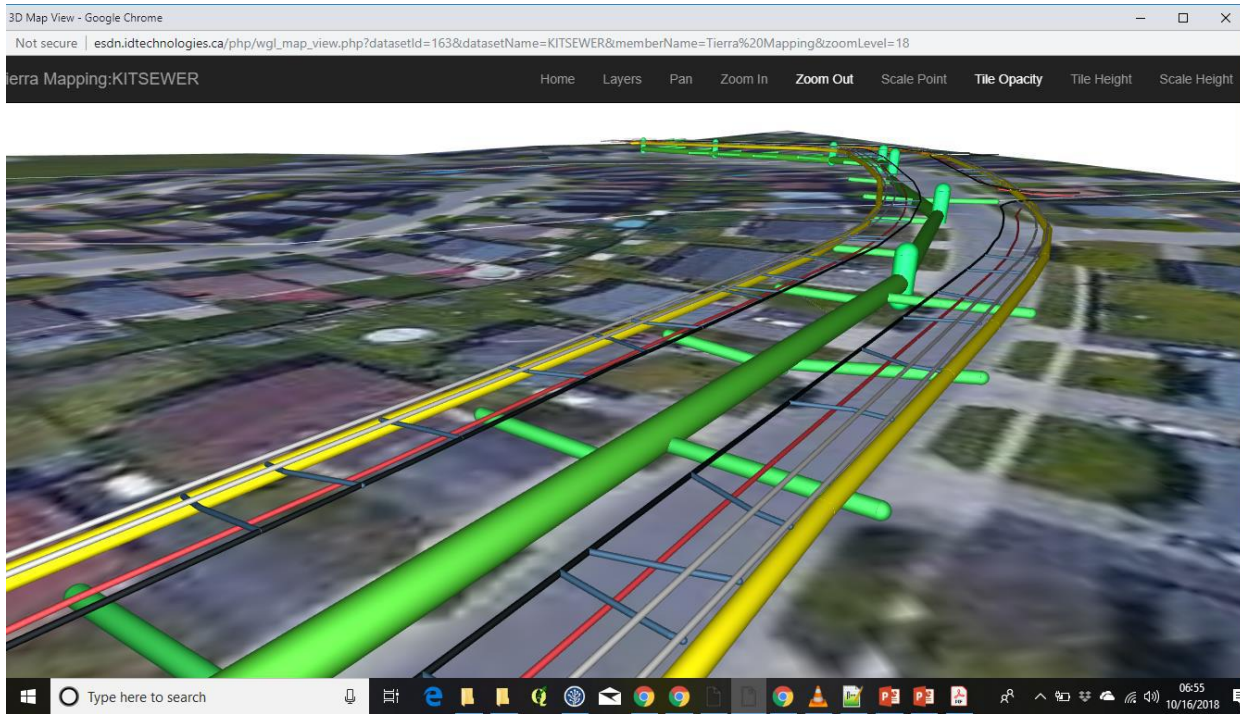


'24/7" Installation Asset Management
- Safety and Emergency Response System

24 / 7 Emergency Response System

- One Call Emergency Response Center
- Capitalization of asset management information for multiple responders
- Scheduling and coordination of first response teams based on strategic decisions related to asset infrastructure
- Directly linked to Phosphorous leak detection system and SCADA alerts

Augmented Reality for Asset Management and Emergency Response





Canadian
Utilities
Technologies
Institute

an INTUS Associated Company

BOSS: Digital Training, Certifications and Online H&S



Mission

CUTI has evolved into a Applied Technologies Learning Institution, with a co-op program, providing fast-track and hands-on practical experience to lower and intermediate educational background individuals, aiming to enrich them with highly-valued technical skills.

CUTI is modelled in its constitution, functions and curriculum structures after highly successful educational institutions such as **Southern Alberta Institute of Technology** (SAIT) and Northern Alberta Institute of Technology (NAIT) which educate train and accredit skilled trades. Their focus however is mostly on the Oil and Gas industry of Alberta. CUTI aims to be the equivalent institution, a first in Canada, focusing on the Utilities and Municipalities needs.

Some notes about C.U.T.I.:

- First Institution focused on the Utilities and Municipal needs
- Offering co-op programs
- Practical hands on field training with the industry leaders
- Experienced teaching staff with multi-year experience



Courses Available

- Gas Distribution and Gas Pipelines Safety and Environmental Protection Programs Technicians (Construction, Installation, Maintenance and Operations of Gas Distribution Networks).
- Pipeline Integrity Management & Pipeline Crossings;
- Geomatics Technician;
(*GPS and RTK GPS Data Collection and Map Integration*);
- GIS Data Management, Infrastructure Asset Management Technicians;
- Fiber To The Home (FTTH) Splicing Technicians;
- Underground Utility Installation Technicians;
- Utilities Damage Prevention Technicians (*Underground Utility Locators*);
- Horizontal Directional Drilling Operators for utilities;
- Hydrovac Operators;
- Sewer Safety Inspection and Maintenance for Municipalities;
- Work Order Management Clerk
(*Dispatching/ Scheduling /Large Project Works Coordination*);
- Health & Safety;



www.canadianlocators.com



www.intusinc.com



www.tierra-geomatic.com



www.intusmartcities.com



www.intusinc.com



www.energyconstruction.ca



www.idtechnologies.ca



Canadian
Utilities
Technologies
Institute

Who we are

About the INTUS Group of affiliated Companies



INTUS Group Mission Statement:

“To ensure that all energy, communications, and vital services infrastructure is planned, built, maintained, accurately identified and efficiently managed in the safest and most cost-effective way possible!”

- ✓ North American Leader in Infrastructure Damage Prevention
- ✓ Member of Southern States Energy Board, NUCLA, CGA
- ✓ 400+ employees
- ✓ Over 20 years of continuous growth
- ✓ Expertise in R&D; Hardware & Software

Service Coverage Map



The INTUS Group is comprised by a number of interoperable affiliates, all privately owned corporations by the same controlling shareholders, each with specialized competencies.