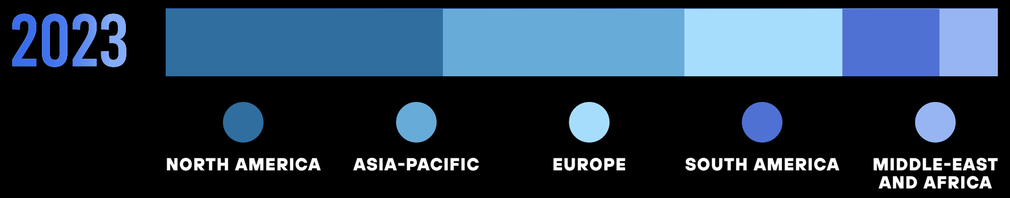
UnifiM.I.™

OIL & GAS, LLC

A FASTENER TECHNOLOGY COMPANY

OIL AND GAS PIPELINE MARKET SHARE

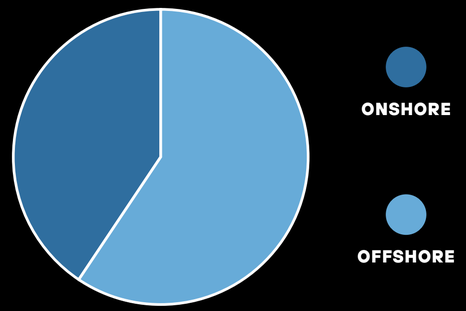
OIL AND GAS PIPELINE MARKET SHARE BY REGION IN 2023 (%)



GLOBAL MARKET SIZE (MARKET SIZE IN BILLION)

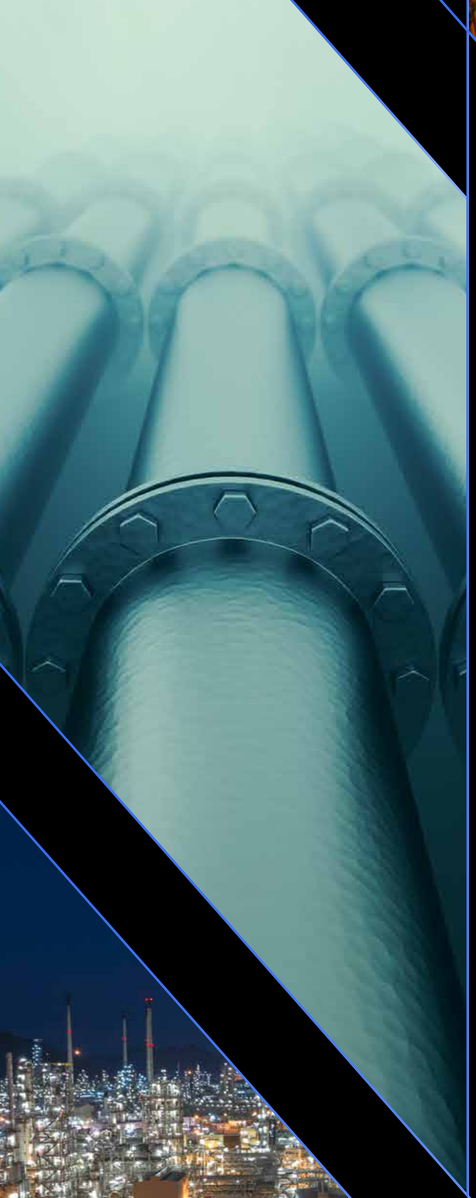
2023	2030
USD 28.03	USD 42.71

OIL AND GAS PIPELINE MARKET SHARE BY APPLICATION IN 2023 (%)



OIL AND GAS PIPELINE MARKET SHARE BY SECTOR IN 2023 (IN BILLIONS)

MMR | Global Oil and Gas Pipeline Market | March 2024



EXPERIENCE MATTERS

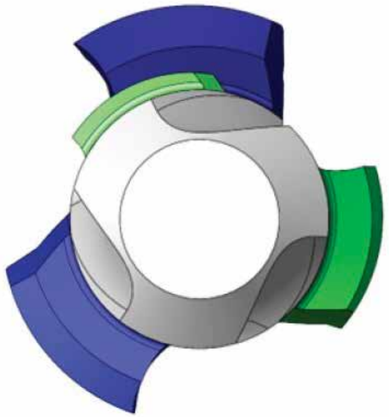
UNIFI*M.I.* FASTENER TECHNOLOGY TRANSFORMED THE MEDICAL DEVICE INDUSTRY.

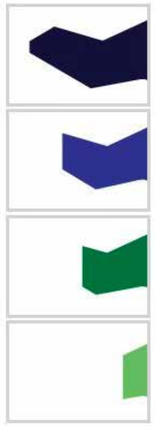
UTILIZED DAILY BY EXPERT SURGEONS 100 UNIVERSITY HOSPITALS TO MAINTAIN IMPLANT STABILITY.

UNIFI*M.I.* PERFORMANCE CAPABILITIES

- PRESERVE THE SUBSTRATE
- INSTANTLY INTERLOCK TO THE PRESERVED SUBSTRATE
- MAINTAIN STABILITY OVER TIME

SUBSTRATE PRESERVING TAP





EXPERIENCE THE DIFFERENCE

CONVENTIONAL ‘BUTTRESS’ THREADS VS. UNIFIM.I. THREADS

INSERTION TEST

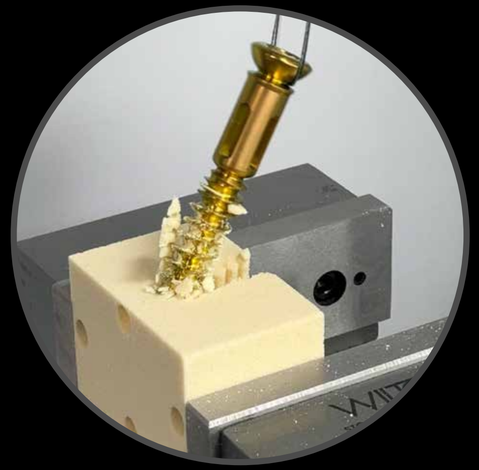
Conventional

- Crushes and plows during insertion
- Creates a damaged and unstable interface

Unifi*M.I.*

- Cleanly prepares and preserves during insertion
- Creates a stable and mechanically integrated interface

PULL TEST



Conventional

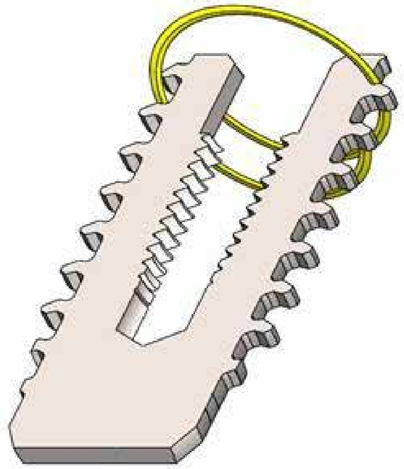
- Non-integrated
- Interface crushed and fractured
- Limited load resistance on tension side

Unifi*M.I.*

- Integrated circumferentially
- Interface preserved and maintained
- Full load resistance on tension side via MI

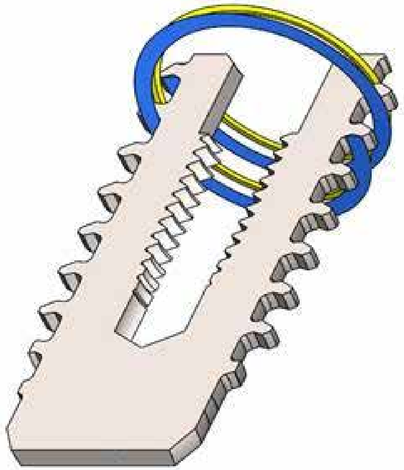
Unifi*M.I.* EXPLAINED

UNIQUE THREAD GEOMETRY: USING UNDERCUTS TO INTERLOCK WITH SUBSTRATE



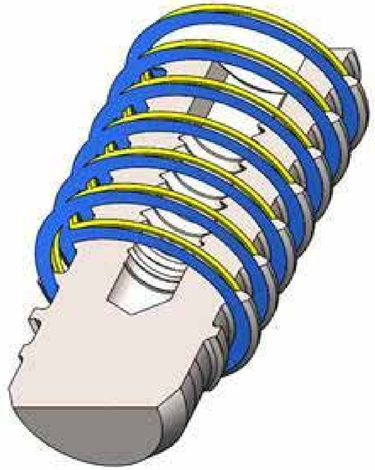
TRAILING UNDERCUT

Trailing undercut provides circumferential resistance to axial pull-out and toggle.



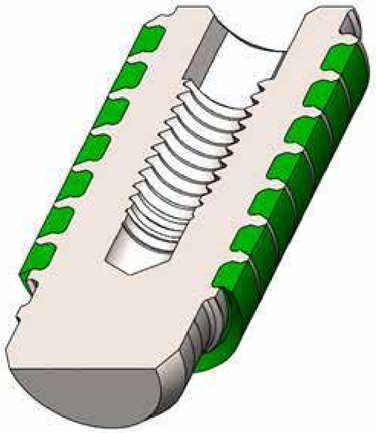
LEADING UNDERCUT

Leading undercut provides circumferential resistance to axial compression and toggle.



WORKING LENGTH

The unique undercut geometry resists loads and supports the insert within the substrate down the entire thread length.



SUBSTRATE CAPTURE

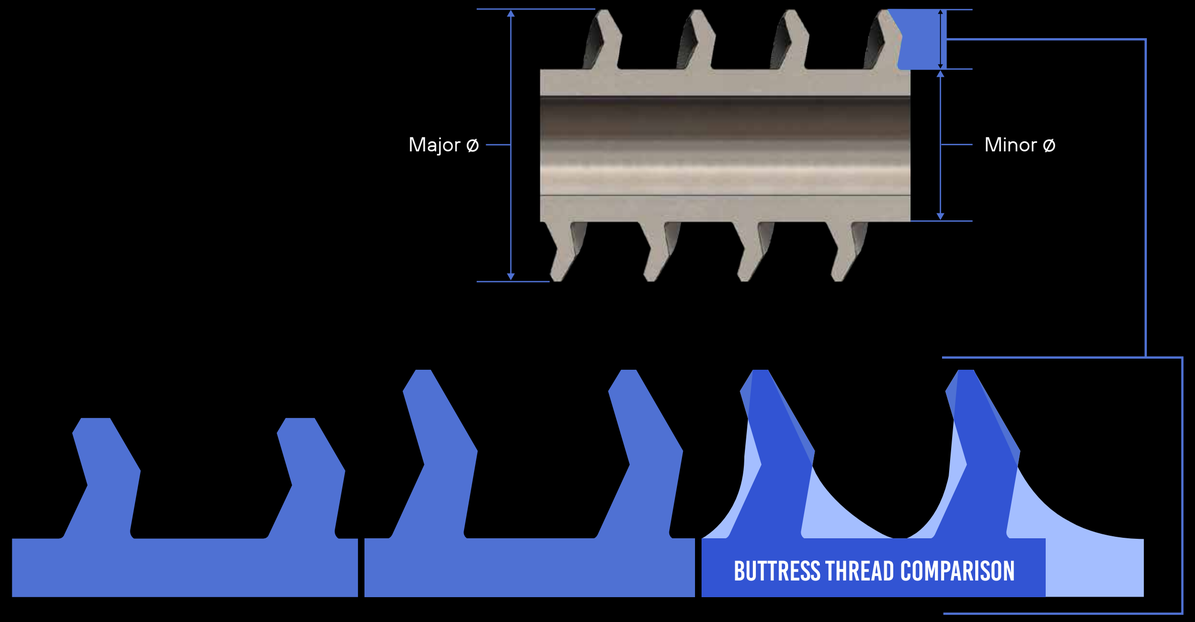
The result is the interlocking of significant substrate volume between threads--providing immediate and lasting stability by sharing loads and reducing stress concentrations.

ADAPTABLE CHARACTERISTICS

BY SUBSTRATE APPLICATION

Ability to control interface depending upon:

- Material Demands
- Application Needs



PERFORMANCE DRIVEN DESIGN

UNIFI*M.I.* THREAD FORM

CONVENTIONAL 'BUTTRESS' THREAD FORM

DRILL OPTIMIZATION

TIP ANGLE

SPLIT POINT

PRIMARY & SECONDARY RELIEF

CORNER CHAMFER

FLUTE HELICAL ANGLE

FLUTE EDGE BREAK

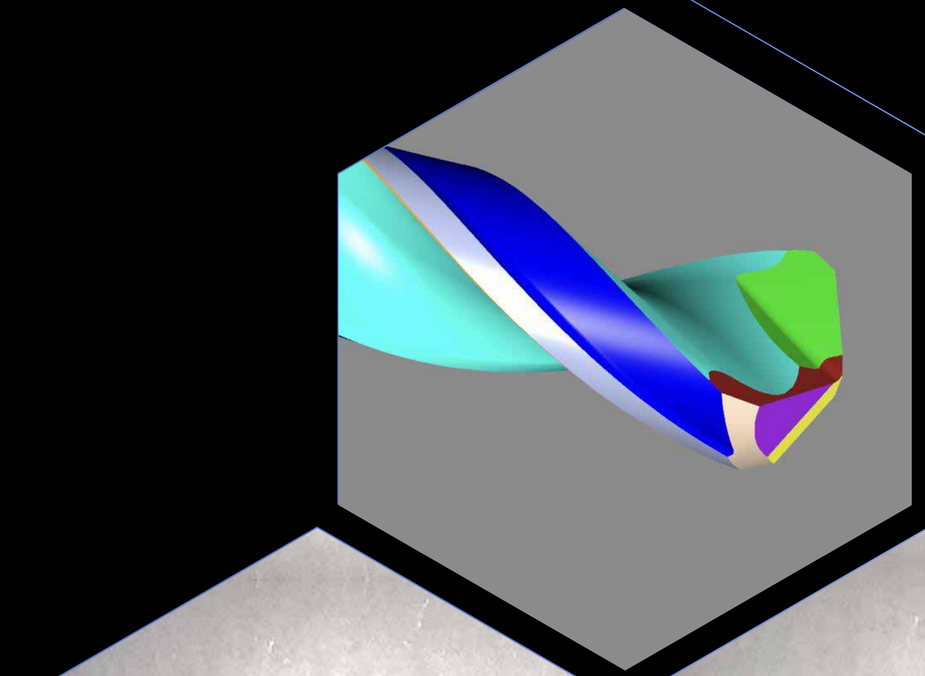
FLUTE MARGIN

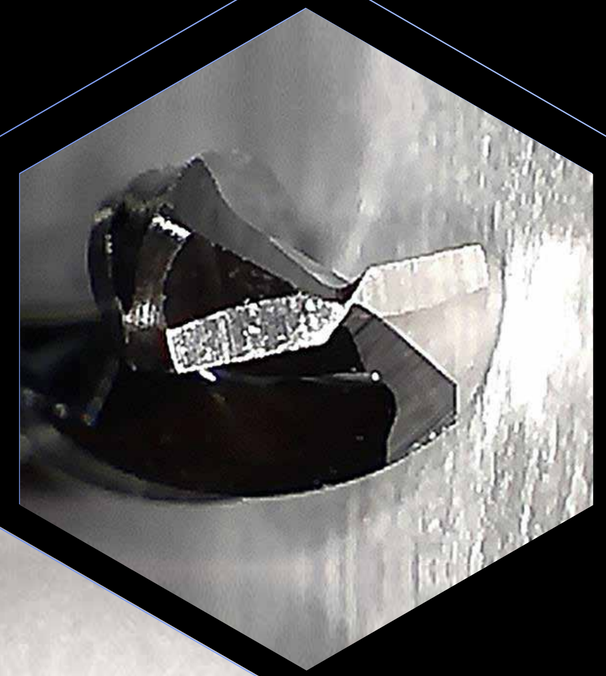
RESULTING IN

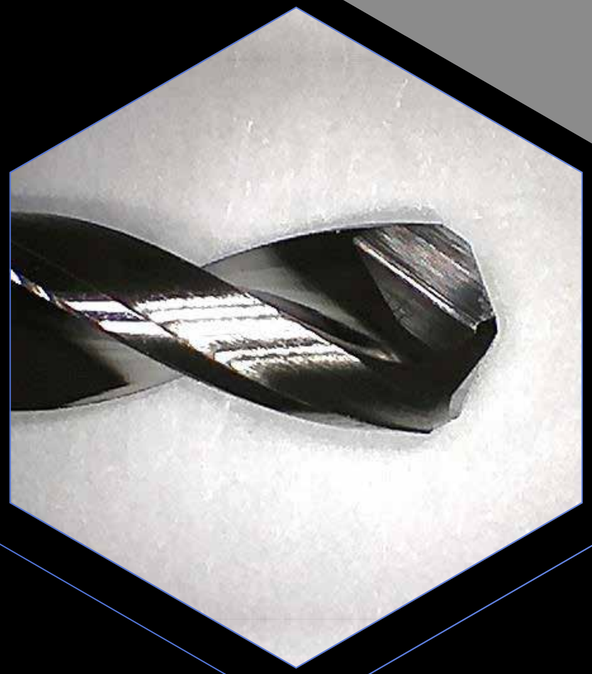
MORE ACCURATE HOLE SIZE

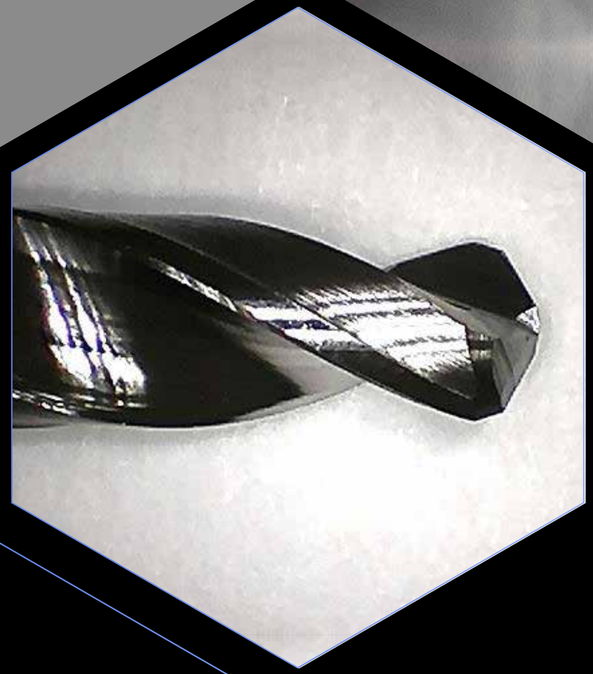
FASTER DRILLING SPEED

LOWER HEAT GENERATION





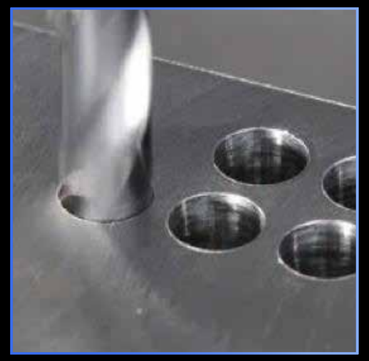




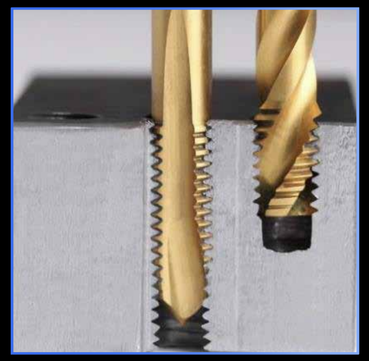
LEVERAGING KNOWLEDGE

APPLICATION OF INTELLECTUAL PROPERTY

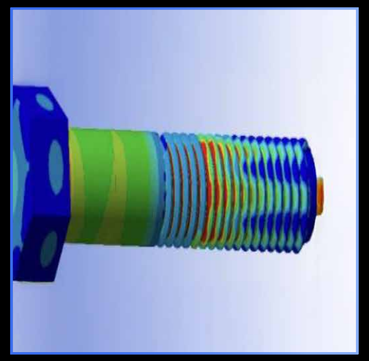
DRILLING



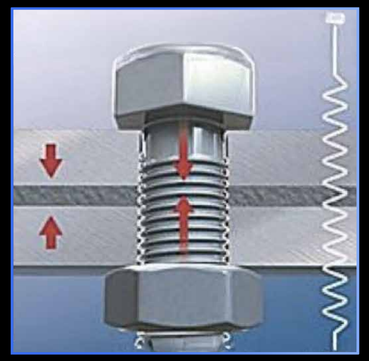
TAPPING



STRESS MANAGEMENT



STABILITY



OIL & GAS APPLICATIONS

ADDRESSING KEY MARKET CHALLENGES

OIL & GAS FASTENERS

TYPES OF OIL & GAS INDUSTRY FASTENERS:

ASTM/ASME A193 B7 AND B16 STUDS

ASTM A194 GRADE 2H AND GRADE 7 HEAVY HEX NUTS

TEFLON/XYLAN COATINGS AND A FULL LINE OF STAINLESS STEEL FASTENERS

Unifi*M.I.*
FASTENER PLATFORM

ENGINEERED TO DISSIPATE VIBRATIONAL ENERGY & PROVIDE A LONG-TERM STABLE CONNECTION

OPTIMAL MECHANICAL, STRUCTURAL & FUNCTIONAL CONNECTION

REDUCE ASSEMBLY TIME, COST & WEIGHT

UTILIZE TRADITIONAL MANUFACTURING TECHNIQUES

PIPE THREAD ISSUES

ENVIRONMENTAL: Oil & gas leaks contaminate soil, air and water.

ECONOMIC: Loss of pipeline revenue, maintenance & repair costs, legal liability penalties.

SAFETY: Fires or explosions impacting workers & property.

Unifi*M.I.* OIL & GAS ACTION PLAN

1. **Demonstrate** technology capabilities
    a. Tool developmentof dies, taps and drills
    b. Drilling and tapping of concrete, wood, and steelsubstrates
    c. Vibrational, axial and off-axis load fastener substrate testing

2. Top down **education** with bottom up preparation

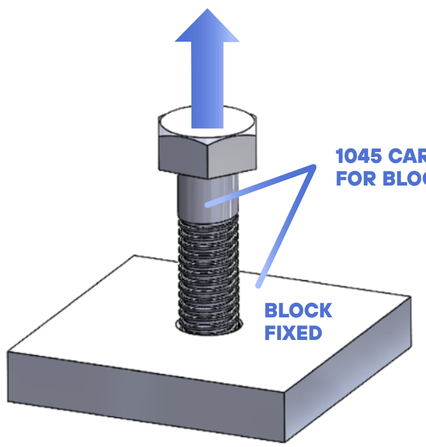
3. Execute **licensing** models

4. Bring **“killer app”** to market with partner

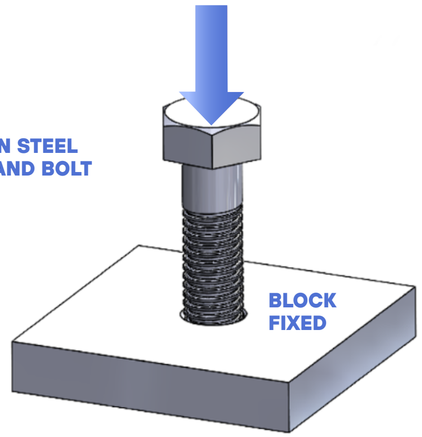
5. **Influence** design and specifications for next gen projects

Unifi*M.I.* OIL & GAS VALIDATION POINTS

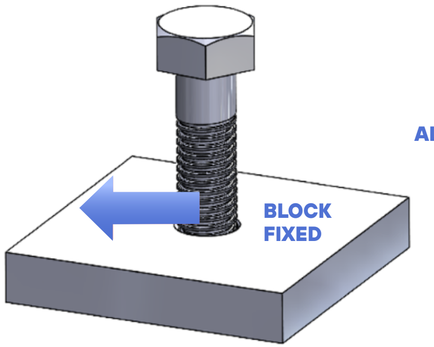
STRUCTURAL & DYNAMIC MECHANICAL TESTING

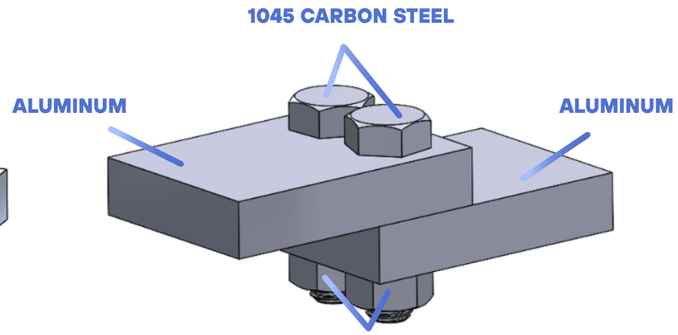


BOLT TENSION



BOLT COMPRESSION





1045 CARBON STEEL
VIBRATION CYCLING WITH CLAMP LOAD CHANGE OVER TIME


RESHAPING
THE FUTURE
UnifiM.I.™
OIL & GAS, LLC