

Amalgamated

Amalgamated Titanium International Corporation



A Tiller Group Company



MAKING TITANIUM AFFORDABLE

WHO WE ARE

- Titanium Technology Company*
- Fabrication & Mass-Production Technology*
- Produce Affordable Products
- Brand, OEM & **License**

Basic Business Model

- ❑ *Product Material Substitution*
- ❑ *Superior Material for Same Cost*
- ❑ Superior Market Penetration
- ❑ 10X Added Value Manufacturing/Branding
 - Tiller Agriculture model
- ❑ Barrier to Competition
 - As Titanium prices decline , we remain lowest cost fabricator w/ best margins



INDUSTRIES INVOLVED

- **Sportfishing** - Reels, rod, hooks, hardware
- **Arms** - Suppressors, rifles, shotguns, pistols
- **Tools** - Hammers, pliers, etc.
- **Aerospace** – Helicopters airframes, gear shafts
- **Petrochemical** – Valves, pipes
- **Clean Energy** – Harnessing Wave Energy
- **Marine, Auto, etc.**

SAMPLE PRODUCTS





OUR TECHNOLOGY COMBINES

- Chemical Engineering
- Mechanical Engineering
- Design Engineering
- Process Engineering

KEY FACTORS:

- ❖ Cross Discipline in age of specialization
- ❖ Multi-step approach in age of push button mfg

TECHNOLOGY COMPONENTS



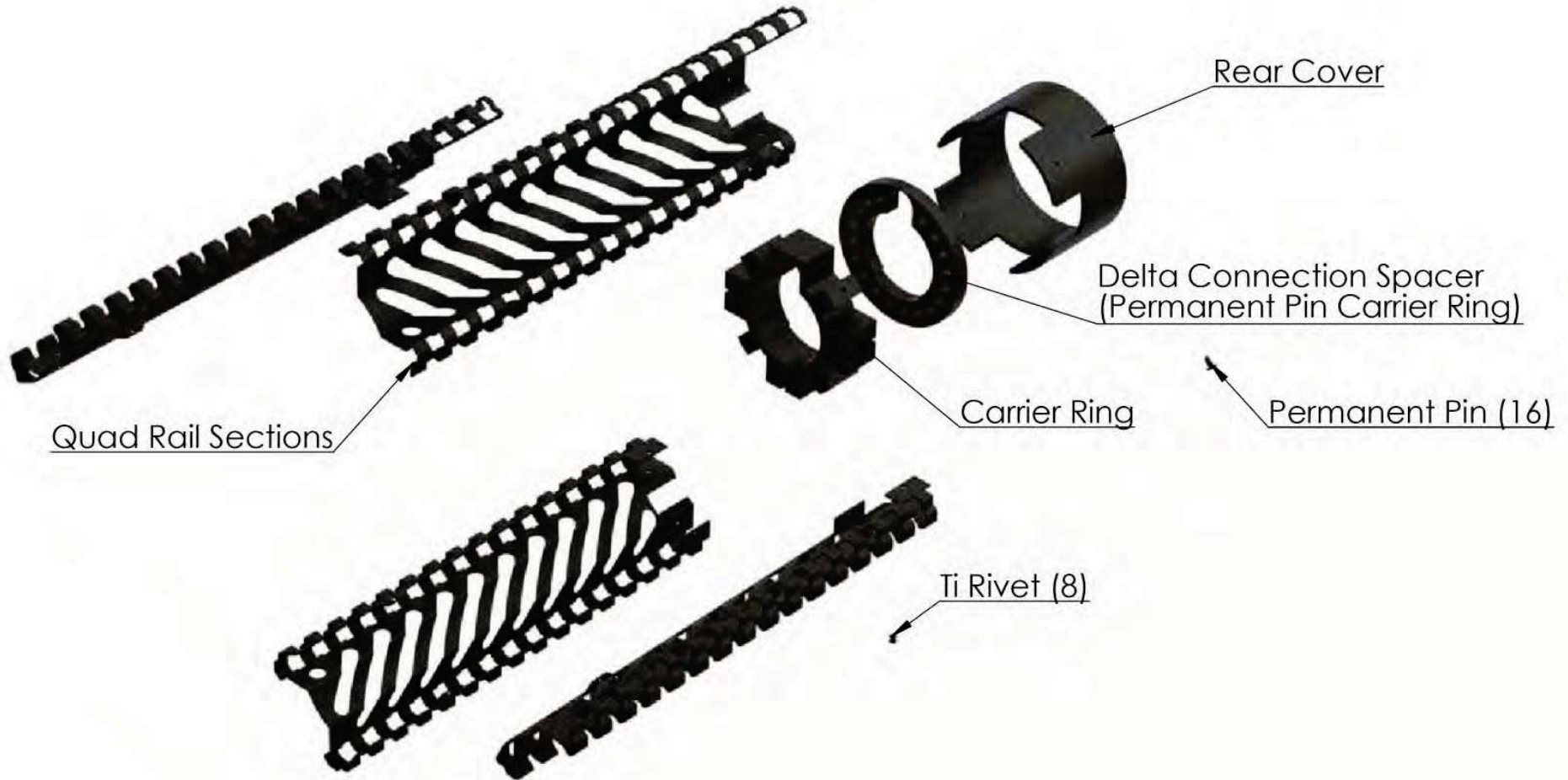
1. Titanium Mill
2. Engineering & Design
3. Manufacturing (minimal tooling)
 - a. MMRS (Mass Material Removal System)
 - **70%-80% more efficient**
 - b. 3D-NNSD (3D-Near-Net-Shape Deposition)
 - **10x faster** than traditional 3D
 - **75% cheaper** than traditional 3D
 - c. CM (Chemical Machining)
 - **Does efficiently what conventional can't**
4. Metallurgical Coatings (Surface Treatments)
 - Cost effective hardening & lubrication
5. Foam Applications

Products, Costs, Margins & Tech Applications



1. **Quad Forend** - Cost Breakdown
2. **Suppressor Cores** – Customer Product & Pricing
3. **Hooks** – Highly Technical
4. **Gears** – Helicopters & Fishing Reels
5. **Valves** – 3D-NNS Explained
6. **Bolt Carrier** – MMRS Explained

QUAD FOREND



Quad Forend



- Our MSRP: \$200
- Traditional Machining Cost: Over \$200
- Our Cost: \$46
- Margin: **77%**

- Tech Applied: **MMRS**

- **We have PRICING FREEDOM but want PERMANENT & MASSIVE market share**

PRODUCT COST SUMMARY



10" Titanium Quad Forend

DESCRIPTION	OPTION 1	OPTION 2
Producer	Client	Amalgamated
Production/Assembly	Semi-Auto	Outsourced
Production Base Units	10,000	
Unit Machine Rate:	\$1.39	
- \$ / Hour	\$125	
- Units / Hour	90	
Unit Assembly Labor Rate:	\$1.33	
- \$ / Hour	\$40	
- Units / Hour	30	
Total Unit Cost	\$46.05	\$104.99

SUPPRESSOR CORES

- Customer MSRP: \$1,700
- Traditional Machining Price: \$445
- Our OEM Price: **\$200**
- Our Cost: \$140
- Our **OEM** Margin: **30%**

- Tech Applied: **Mill, MMRS, Foam**



Fishing Hooks



- Retailer MSRP: \$6.67
- Machining Cost: Industry Incapable
- Our Branded WHSL Price: \$3.33
- Our Branded Cost: \$.45
- Our Branded Margin: **86%**

- Tech Applied: **CM, Coating**

GEARS: Helicopter & Fishing Reel



- **Reel MSRP (30%):** \$500
- **Our WHSL Price:** \$350
- **Our Cost:** \$125
- **Our Margin:** **64.3%**

- **Tech Applied:** **Mill, MMRS, CM, Coating**

- **We have PRICING FREEDOM but want PERMANENT & MASSIVE market share**

OIL & PIPELINE VALVES

Ball Valve Construction:

- A. 3D-NNSD - hollow reinforced structure
- B. Machine off excess
- C. Coat finished ball - harden & lubricate (avoid galling)



OIL & PIPELINE VALVES

Ball Valve Body & Benefits:

- A. 60.2% weight reduction
Ti (46.67%) + Hollow (25.45%)
- B. 10x faster than 3D printing
- C. Costs 75% less than 3D printing
- D. Reduced transportation costs
- E. Increase ease of maintenance
- F. Ti's Superior erosion resistance
- G. Coating increases life/durability
- H. Decreases leakage
- I. Avoid casting of massive pipeline valves
- J. Impervious-to-corrosion

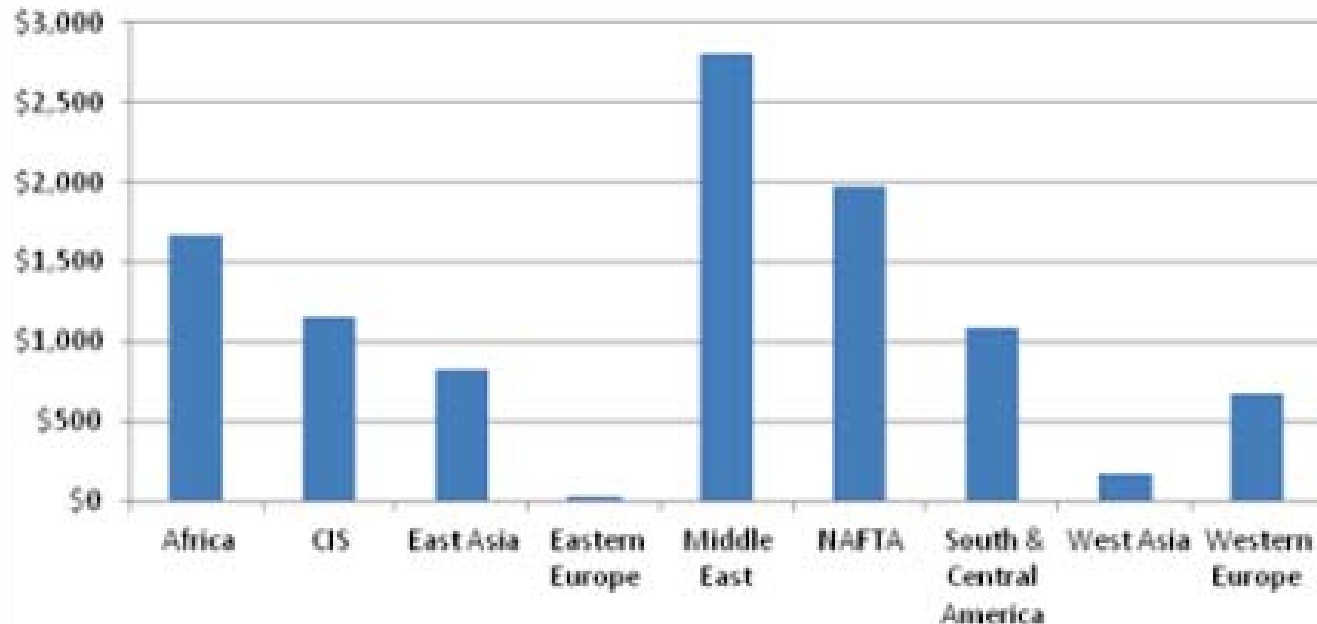


Global Industrial Valves



- Oil & Gas: \$10B
- Total Valve Market: \$70B

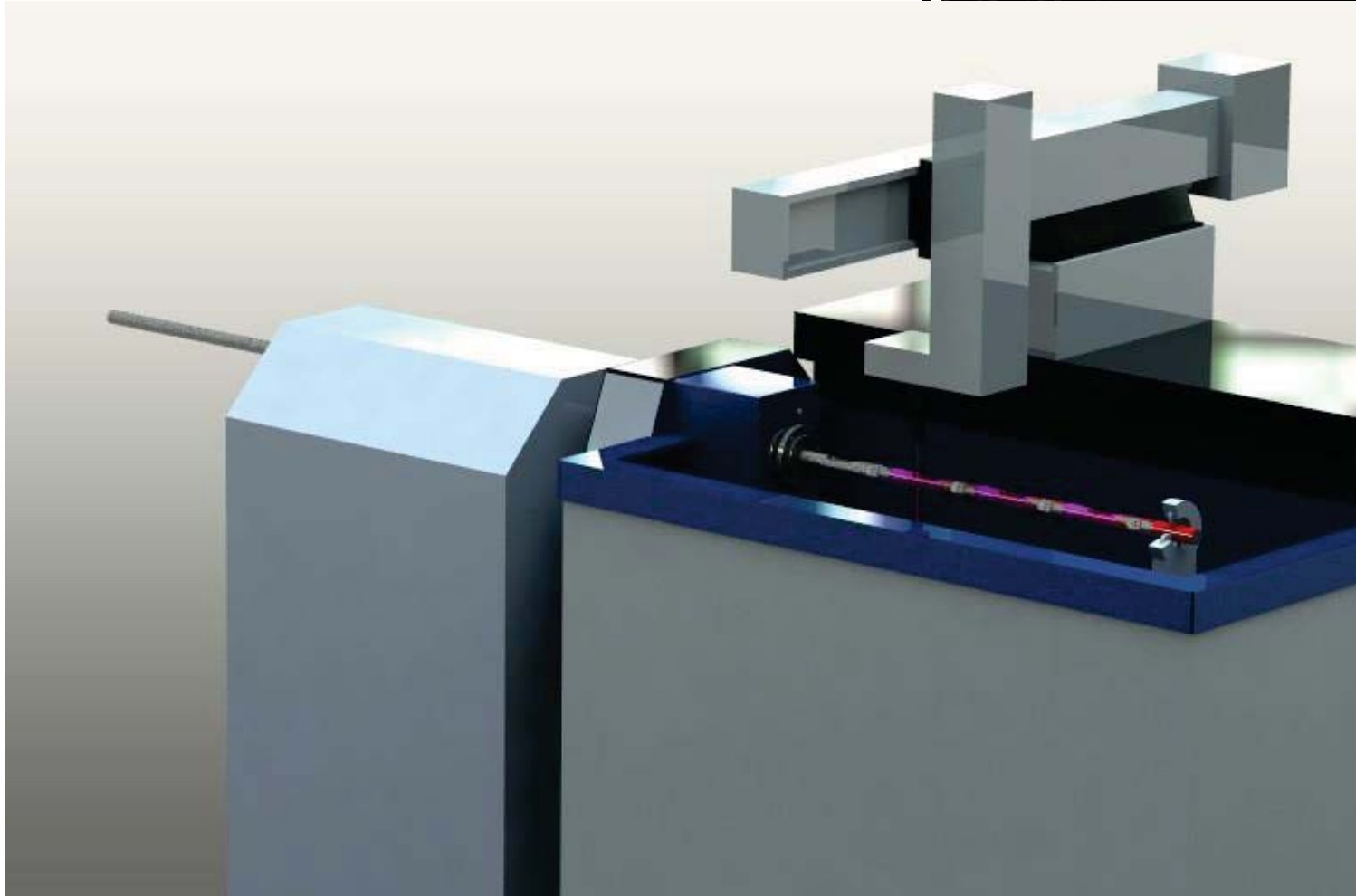
Valve Sales for Oil & Gas Industry, Mil-\$/Year
Worldwide, 2015



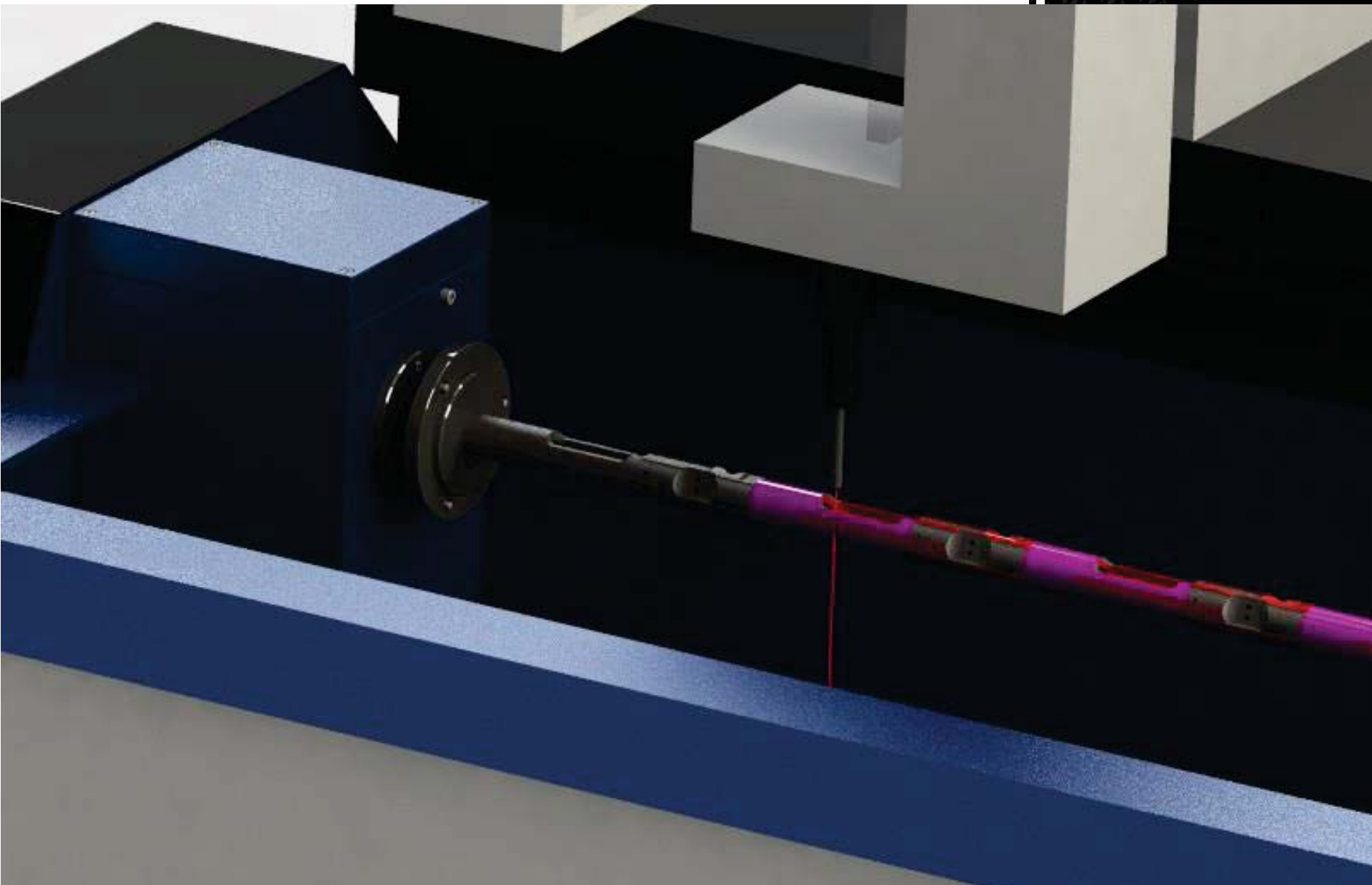
MMRS: Mass Material Removal System



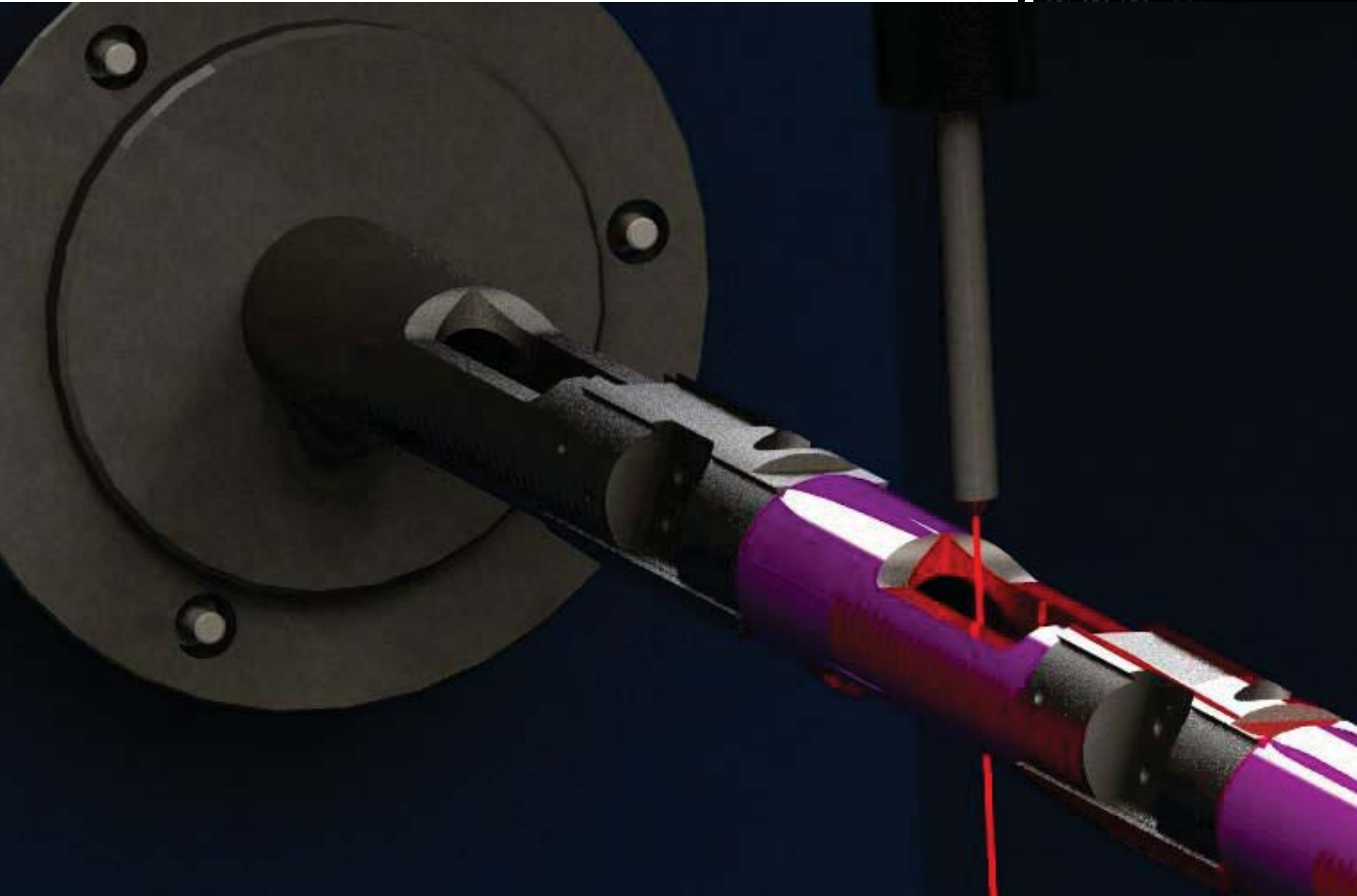
- Laser
- Multi-Axis
- Multi-Head
- Auto-Feed
- Cutting
- Milling
- Lathe



MMRS:



MMRS: Close Up



Amalgamated

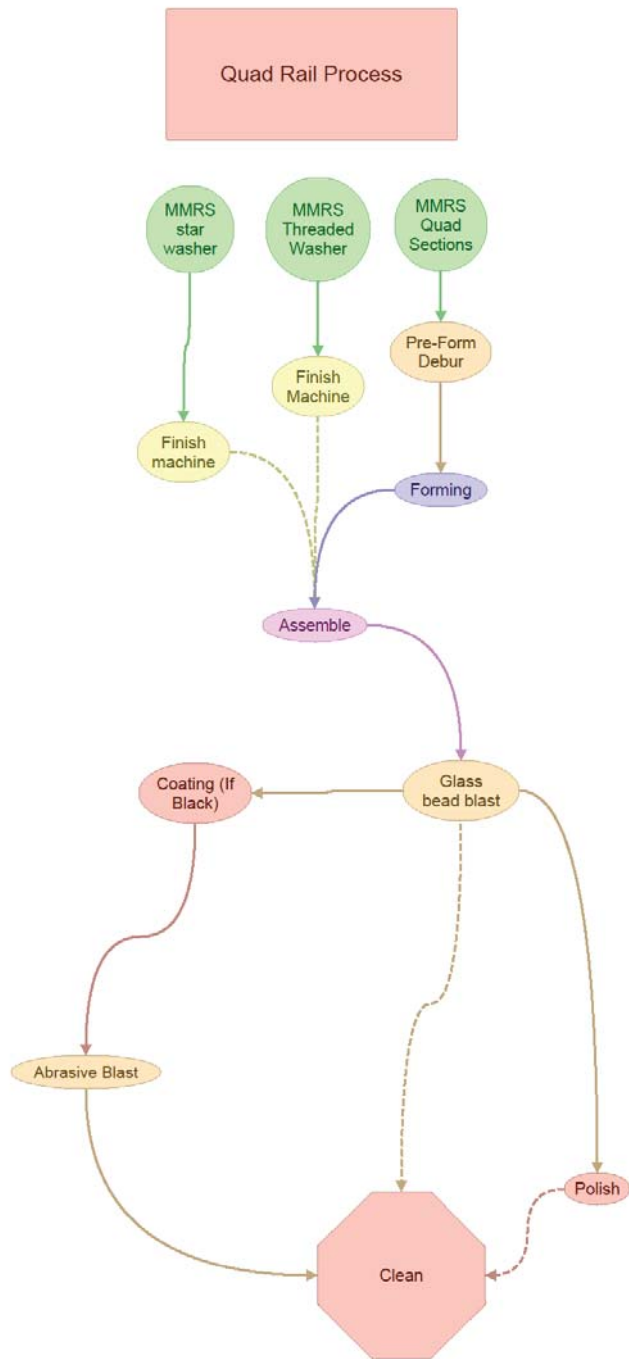
Amalgamated Titanium International Corporation



A Tiller Group Company

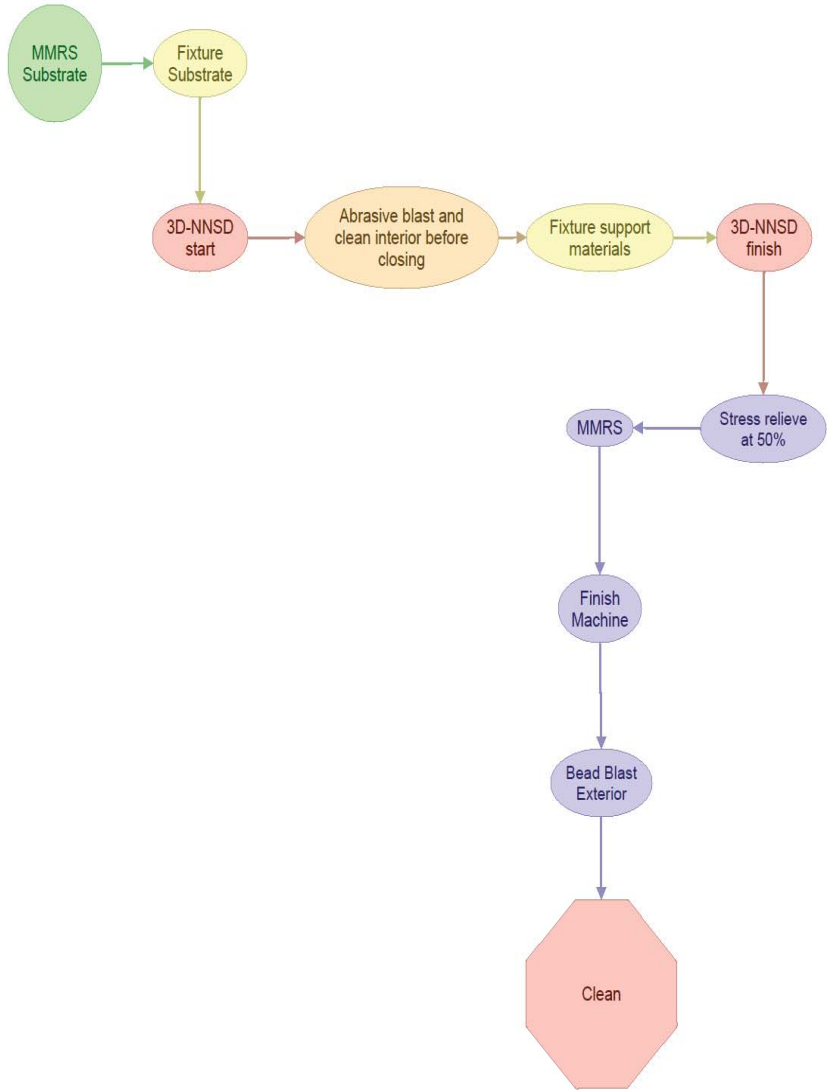


MAKING TITANIUM AFFORDABLE

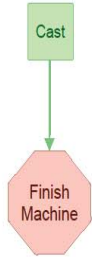




Valve Body Process



Conventional Process





Monocore Process

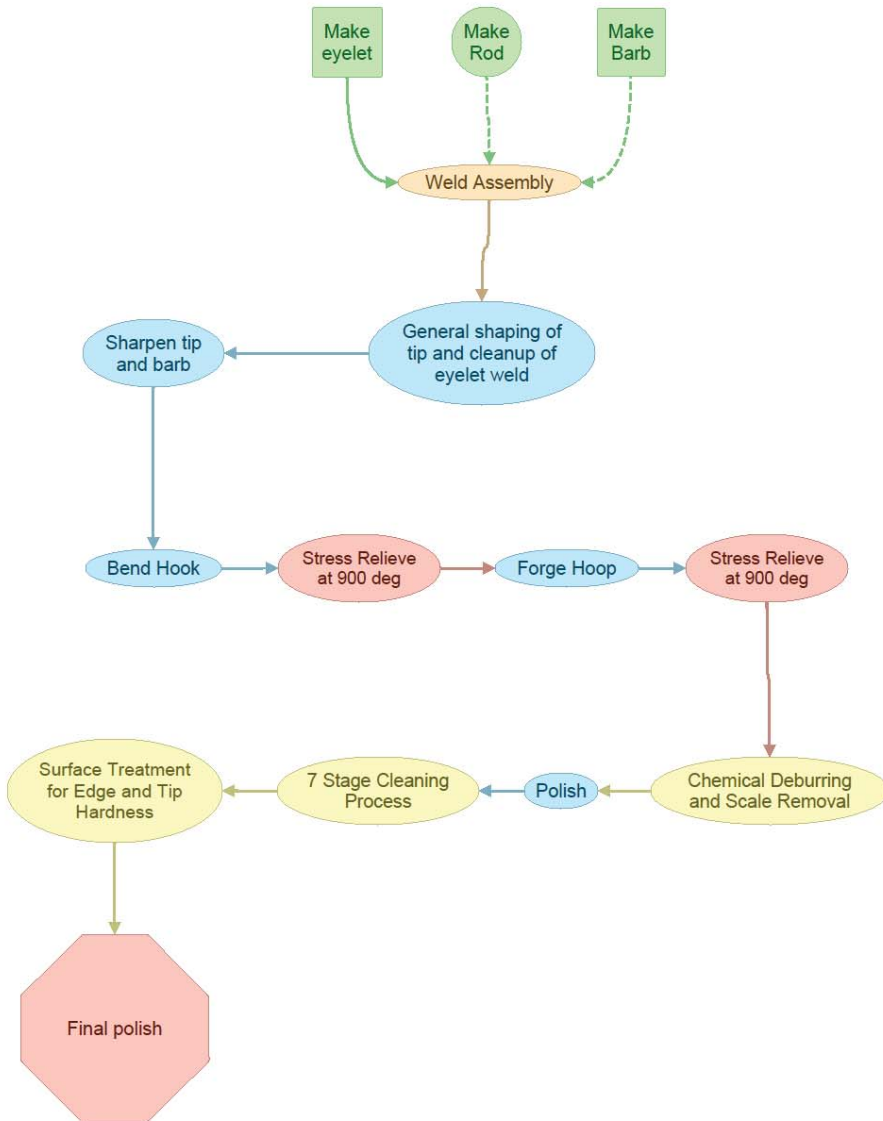


Conventional Process





Hook Process



Conventional Process

