

EMS - MAIN REFERENCES IN PIPE MILL PROJECTS

| CLIENT | COUNTRY | PLANT LOCATION | YEAR | TECHNOLOGY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
|-----------------------------------|--------------|-----------------------------|-------------|--|---|---|---|---|---|---|---|---|---|----|-----|----|----|----|----|----|----|----|----|----|-----|
| U.S. STEEL | USA | USA | 1981-1983 | SEAMLESS PIPE PLANT | ■ | | ■ | | ○ | ■ | ○ | ■ | | ○ | ○ | ■ | | | | | | | ■ | | |
| FIRST BOSTON BANK | USA | USA | 1982-1983 | SEAMLESS PIPE PLANT | | | | | | | | | | | | | | | | | | | | ■ | |
| CHASE MANHATTAN BANK | USA | USA | 1981-1982 | SEAMLESS PIPE PLANT | | | | | | | | | | | | | | | | | | | | ■ | |
| NATIONAL TUBE COMPANY | USA | USA | 1981-1984 | MELT SHOP AND SEAMLESS PIPE PLANT | ■ | | ■ | ○ | ○ | ■ | ■ | ■ | ■ | ○ | | | | | | | | | | | ■ |
| TOSA | South Africa | South Africa | 1983 | SEAMLESS PIPE PLANT | ■ | | | | | | | | | | | | | | | | | | | | (a) |
| FLUOR DANIEL | USA | USA | 1981-1983 | MELT SHOP AND SEAMLESS PIPE PLANT | ○ | | ■ | | | | ■ | ○ | | ○ | | | | | ○ | | | | | | (a) |
| HUNT ENERGY | USA | USA | 1985 | SEAMLESS PIPE PLANT | | ■ | | | | | | | | | | ■ | | | ■ | | | | | | |
| WORLD BANK - I.D.B.Section | USA | Argentina | 1986 | SEAMLESS PIPE PLANT | | | ○ | | | | | | | | | ■ | ○ | | | | | | | ■ | |
| NORTH STAR STEEL | USA | USA | 1985-1986 | SEAMLESS PIPE PLANT | | ■ | ■ | ○ | | | | ■ | | ○ | ○ | | ○ | | | | | | ■ | | |
| INNSE - IRI Group | Italy | USA, Canada, Mexico, Russia | 1981-1990 | SEAMLESS PIPE PLANT | | | ○ | ○ | | | | ○ | | ○ | | | | | | | | | ○ | | |
| Snam - ENI Group | Italy | Italy | 1987-1988 | PIPELINE CONSTRUCTION | | | | | | | | ■ | | | (d) | | | | | | | | | | |
| SEIDAC | Iraq | Iraq | 1987-1989 | WELDED PIPES PLANT | | | ■ | ○ | | | | ■ | | | | | ■ | | | | | | ■ | | |
| A.F.L. FALCK | Italy | Italy | 1990 | PIPES COATING PLANTS | ■ | | | | | | | | | | | | | | | | | | | | |
| European Commission | Belgium | Eastern Europe | 1993-2000 | SEAMLESS AND WELDED PIPES INDUSTRY | | ○ | | | | | | | | | | | | ■ | ■ | | | | | | |
| | | Poland, Romania | | FERROUS SCRAP INDUSTRY | | | | | | | | | | | | | | ■ | ■ | | | | | | |
| | | Poland | | SEAMLESS AND WELDED PIPES INDUSTRY | | ○ | | | | | | | | | | | | ■ | ■ | | | | | | |
| | | Russia | | COST ACCOUNTING AND BUSINESS PLANNING IN IRON & STEEL INDUSTRY | | | | | | | | | | | | | ■ | ■ | | | | | | | |
| | | Romania | | IRON AND STEEL INDUSTRY | | | | | | | | | | | | | ■ | ■ | | | | | | | |
| Italimpianti/Iritecna - IRI Group | Italy | Russia | 1989 - 1992 | MELT SHOP AND SEAMLESS PIPE PLANT | | ■ | | | ■ | ■ | | | | | | ○ | | ■ | | ■ | ■ | | | | |
| | | Venezuela | | MELT SHOP AND SEAMLESS PIPE PLANT | | ■ | | | | | | | | | | | | ■ | | | | | | | |
| ILVA S.p.A | Italy | Italy | 1994 | ERW PIPE PLANT | ■ | | ■ | | | | | | | | | | | ■ | | | | | | | |

LEGEND

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| 1 - New Plants Feasibility Studies, Project Scheduling and Investment Budget |
| 2 - Plants Revamping Studies, Project Scheduling and Restructuring Budget |
| 3 - Plant Technological Design, Machinery Specifications and Basic Engineering |
| 4 - Detailed Design and Engineering for Construction and Erection |
| 5 - Simulation Studies for Plant Lay-out finalization |
| 6 - Automatic in-process Storage Systems: Basic Design and Specifications |
| 7 - Standard Production Costs Evaluation |
| 8 - Assistance to Equipment Procurement (Vendor's Quotations evaluation, Assistance in final negotiation, contractual documents editing) |
| 9 - EPC Contractor: Specifications, Selection and finalization |
| 10 - Project Management, Planning and Cost Control, Expediting, Shop Tests |
| 11 - Site Management and Site Costs Control |

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| 12 - Economical and Financial Assessment of the Investment |
| 13 - Plant Operation Organization: Manning, Job Description & Personnel Training |
| 14 - Business Planning and Strategy Consulting |
| 15 - Products Market Studies |
| 16 - Quality Assurance: Manual, Operation Procedures, Technical Instructions |
| 17 - Companies' Assets Evaluation: Tangible and Intangible |
| 18 - Environmental and Safety Risks Analysis |
| 19 - Start-up, Performance Tests Procedures and Manuals |
| 20 - Business Risks Analysis during Construction, Start-up and Operation |
| 21 - Other Activities |

NOTES

- (a) Site Selection
- (b) Technical Evaluation of the two Bidders Quotation
- (c) Technical Evaluation of the Project Design
- (d) Pipe line tests

- Development of the activity
- Consultancy or coordination of subcontractors activity

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|--------------------------------------|--------------|----------------|-------------|------------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|-------|
| Dalmine S.p.A. | Italy | Italy | 1994 - 2010 | SEAMLESS PIPE PLANT | ○ | | ■ | ○ | ■ | | | | | | | | | | | | ■ | | | | |
| | | | | PLANTS OF THE GROUP | | | | | | | | | | | | | | | | | ■ | | | | |
| Bernard Krief Consulting Group | France | Russia | 1994 | STEEL SHOP AND SEAMLESS PIPE PLANT | | ■ | | | | | | | | | | | | | | | | ■ | | | |
| NITEC Corporation | Japan | Russia | 1994 - 1995 | SEAMLESS PIPE PLANT | | | ■ | | | | | ○ | | | | | | | | | ■ | | | | |
| CITRA TUBINDO | Indonesia | Indonesia | 1994 | STEEL SHOP AND SEAMLESS PIPE PLANT | ■ | | ■ | | ■ | | | | | | | | | | | | | | | | |
| AL OUDA | Saudi Arabia | Saudi Arabia | 1993 - 1995 | SEAMLESS PIPE PLANT | ■ | | ■ | | ■ | | ■ | ○ | ○ | | | ■ | ■ | ■ | ■ | | | | | ■ | |
| FINARVEDI | Italy | Italy | 1994 - 2009 | IN LINE STRIP MILL | | | | | | | | | | | | | | | | | | ■ | | | |
| | | | | WELDED PIPE PLANTS | | | | | | | | | | | | | | | | | | ■ | | | |
| | | | | STAINLESS WELDED PIPE PLANTS | | | | | | | | | | | | | | | | | | ■ | | | |
| | | | | FLAT PRODUCTS | | | | | | | | | | | | | | | | | | ■ | | | |
| C.V.G. - SIDOR C.A. | Venezuela | Venezuela | 1995 - 1998 | STEEL SHOP AND SEAMLESS PIPE PLANT | | ■ | | | | | ■ | | | | | ■ | ○ | ■ | ■ | | ■ | | | | |
| BRE/IB Austria | Poland | Poland | 1996 | ERW WELDED PIPES PLANT | | | | | | | | | | | | | | ■ | ■ | | | | | | |
| Wyman Gordon | UK | UK | 1997 | STAINLESS/DUPLEX WELDED PIPES | | | | | | | ■ | | | | | | | | | | | | | | |
| | | | | AIRPORT TERMINAL OPERATION | | | | | | | | | | | | | | | | | | ■ | | | ■ (g) |
| USINOR | France | Italy, France | 1999-2001 | WELDED PIPES PLANTS | ■ | ■ | | | | | ■ | | | | | | | | | | ■ | ■ | | | |
| | | Algeria | | SEAMLESS AND WELDED PIPES PLANTS | | | | | | | ■ | | | | | | | ■ | | | | | | | |
| FEDERACCIAI | Italy | Italy | 2000 | IRON & STEEL PRODUCTS | | | | | | | | | | | | | | | | | | | | | ■ (h) |
| ESTA | France | France | 2000 | SEAMLESS AND WELDED PIPES | | | | | | | | | | | | | | | | | | | | | ■ (h) |
| German Association of Pipe Producers | Germany | Germany | 2000 | SEAMLESS AND WELDED PIPES | | | | | | | | | | | | | | | | | | | | | ■ (h) |
| ChTPZ Group | Russia | Russia | 2002 - 2010 | SEAMLESS PIPE PLANTS (several) | | ■ | ■ | | ■ | | ■ | | | | | | | | | | ■ | | | | |
| | | | | MELT SHOP | | | | | | | | | | | | | ■ | | | | | | | | |
| | | | | SEAMLESS PIPES NEW FINISHING SHOP | ■ | | ■ | | | | | | | | | | | | | | | | | | |

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NOTES

- (e) Assistance to the Project Management Group
(f) Project control of the Site Scheduling
(g) Tangible assets register with managing software; assistance for new handling fare, technical documentation for the Airport licence, assistance to the management
(h) Technical aspects of the manufacturing of Iron & Steel Products
(i) Operation Control Management Tools
(k) Assistance to Tender Project selection
(j) Safety Plan for Tender

- Development of the activity
○ Consultancy or coordination of subcontractors activity

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|--|-----------------------|----------------------------|-------------|--|------|---|---|---|---|---|---|---|------|----|----|----|----|----|----|----|----|----|----|------|------|--|
| OMK Group | Russia | Russia | 2004 - 2012 | STEEL WORKS | | | | | | | | | | | | ■ | | ■ | | | | | | | | |
| | | | | WELDED PIPE PLANT RESTRUCTURING | | ■ | | | | | | | | | | | | | | | | | | | | |
| | | | | SEAMLESS PIPE PLANT OD 2.3/8" + 7" | ■ | | ■ | | ■ | | | | | | | | | | ■ | | | | | | | |
| | | | | CASING FINISHING LINE OD 16.3/4" | ■ | | ■ | | | | | | | | | | | | | | | | | | | |
| E.B.R.D. | UK | Russia | 2001 - 2004 | STEEL SHOP AND SEAMLESS PIPE PLANT | | | | | | | | | | | | ■ | | | | | | | | | | |
| ZINCHITALIA | Italy | Croatia | 2003-2004 | STEEL SHOP AND SEAMLESS PIPE PLANT | | ■ | | | | | | | | | | | | ■ | | | | | | | | |
| KSP STEEL | Kazakhstan | Kazakhstan | 2003 - 2007 | SEAMLESS PIPE PLANT | ■ | | ■ | | ■ | | ■ | ■ | | ■ | | ■ | ■ | ■ | ■ | ■ | | | ■ | | | |
| MAXI GROUP (Commissioned by Danieli&C. Spa) | Italy | Russia | 2005 - 2006 | SEAMLESS PIPE PLANT | ■ | | ■ | | | | | | | ○ | | ■ | | | | | | | | | ■ | |
| VIRAJ | India | India | 2006 - 2007 | SEAMLESS PIPE PLANT | | ■ | | | | | | | | | | | | | | | | | | | | |
| JESCO (Commissioned by Danieli&C Spa) | Italy | Saudi Arabia | 2006 - 2009 | JESCO: SEAMLESS PIPE PLANT | ■(p) | | ■ | | | | | | | | | | ■ | | | | | | | | ■(q) | |
| AL TUWAIRQI | Saudi Arabia | Saudi Arabia | 2006 | SEAMLESS PIPE PLANT | ■ | | ■ | | | | | | | | | | | | | ■ | | | | | | |
| BOULDER STEEL | Australia | Australia, UAE | 2007 - 2008 | SEAMLESS PIPE PLANT | ■ | | ■ | | | | ■ | | | | | ■ | | ■ | | | | | | | | |
| ARCELOR MITTAL | Netherland Luxembourg | Saudi Arabia | 2007 - 2008 | SEAMLESS PIPE PLANT | ■(r) | | ■ | | | | | | | | | | | | | | | ○ | | | | |
| | | Nigeria | 2007 - 2008 | WELDED PIPES PLANT | ■(r) | | ■ | | | | | | | | | | | | | | | | ○ | | | |
| AFRAS Ltd | India | India | 2008 - 2009 | WELDED PIPE PLANT - Stainless & Duplex | ■ | | ■ | | | | ■ | | ■(s) | | | ■ | ■ | | ■ | | | | ■ | ■(t) | | |
| | | Middle East | 2008 - 2009 | PIPES COATING PLANT | ■ | | ■ | | | | | | | | | | | | | | | | | | | |
| LRSI (Laureate Resources) | USA | Middle East | 2008 - 2009 | SEAMLESS PIPE PLANT | ■ | | | | | | | | | | | | | | | | | | | | | |
| HEILONG JIANG (Commissioned by DANIELI&C. Spa) | Italy | China | 2009 | SEAMLESS PIPE PLANT | | | | ■ | | | | | | | | | | | | | | | | | | |
| MBR - Metal Bulletin Research | UK | Middle East - North Africa | 2009 - 2010 | SEAMLESS PIPES | | | | | | | | | | | | | | | | ■ | | | | | | |
| TDT | Turkmenistan | Turkmenistan | 2012 | WELDED PIPE PLANT | ■ | | | | | | | | | | | | | | | | | | | | | |

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NOTES

- (l) Definition of the fares for energy supply
- (m) Assistance to economic and operating evaluation of the Promoter Proposal and assessment of in progress modifications
- (n) Assistance for energy supply evaluation and consumption monitoring
- (o) Managing of the International Tenders for the Construction of Hotels, Electrical Substation Supply and Erection, Parking System Supply
Managing of the International Tenders for the selling with riquification project of the old exhibition center
- (p) Design and Budget of the Finishing Shop
- (q) Technical Specification for the Operating Company selection
- (r) Without Investment Budget
- (s) Up to the phase of manifestation of interest and tender documents preparation
- (t) Site selection

- Development of the activity
- Consultancy or coordination of subcontractors activity