



STATE OF LIBYA

Ministry of Economy & Industry

The Libyan Iron & Steel Co. (LISCO)

Libyan Steel Industry : Prospects & Perspectives

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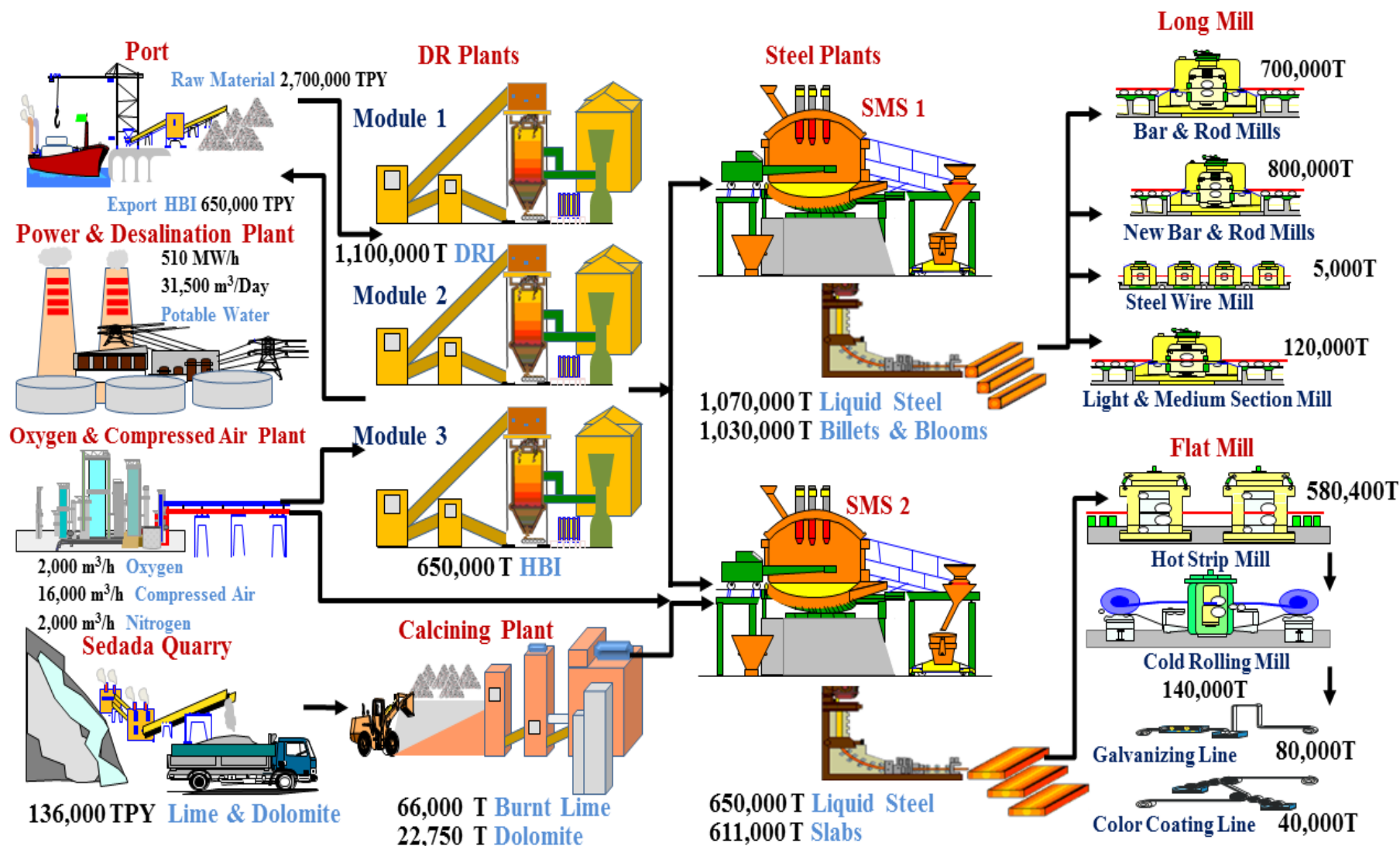
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LISCO Milestones

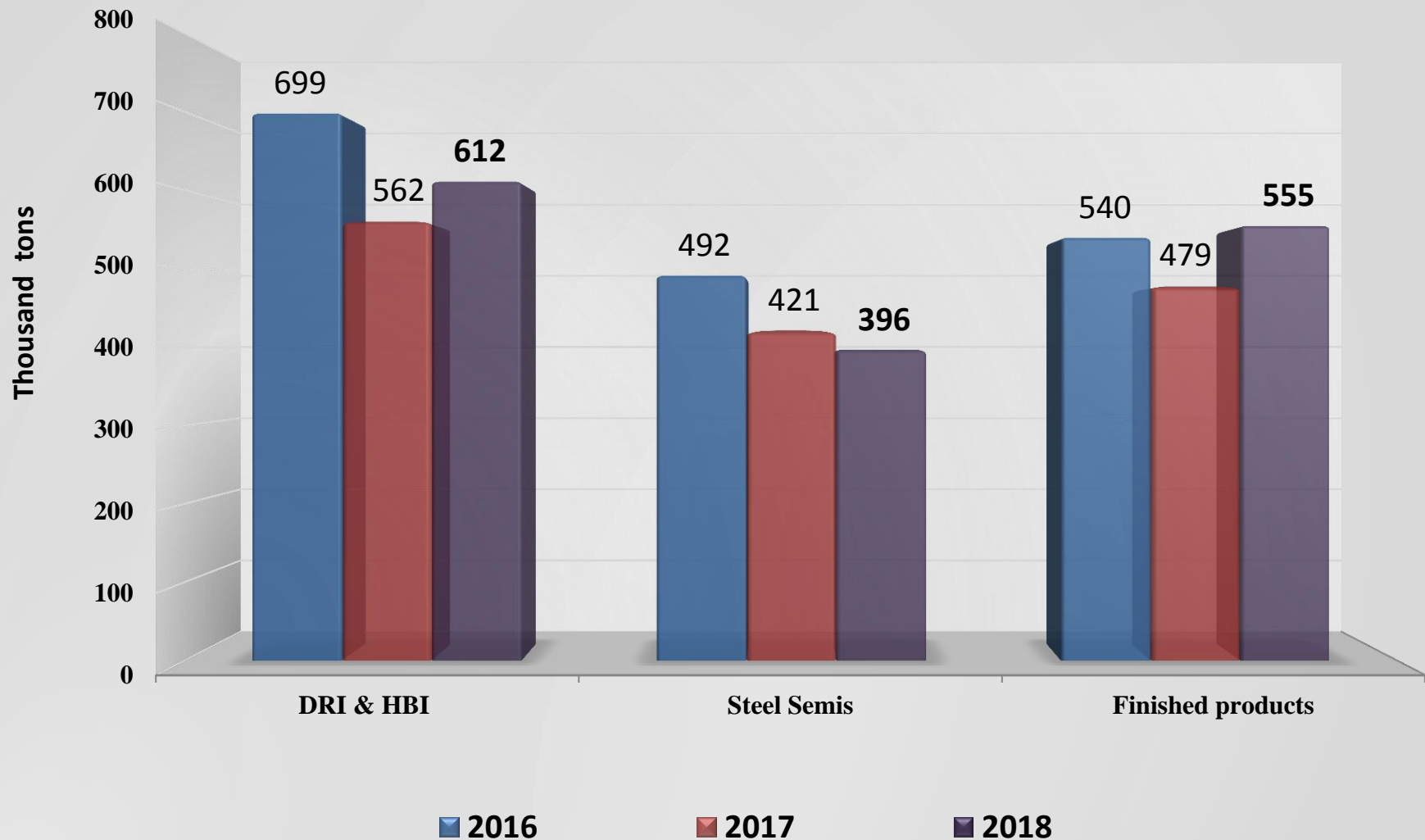
1979	Laying the Foundation Stone for Misrata Steel Complex (MSC).
1988	Start of commercial operation of first MSC plant (Bar & Rod mill).
1989	Official inauguration of MSC.
1991	Commercial operation of MSC Plants & declaring LISCO a public company
1997	Commercial operation of first expansion project (HBI Module).
1998	Commercial operation of new rod Mill, Galvanizing & Color Coating Lines
2004	Preparing the feasibility studies for the MP expansion projects .
2005	Start of SMS-1 expansion project.
2006	Updating the Feasibility Studies for expansion Master Plan .
2008	Start implementation of Phase 1 of MP expansion projects.
2012	Restarting production of LISCO plants after Feb 2011 events
2014	Start Commissioning of MP projects (NG Treatment Station)
2017	Start Commissioning of MP projects (new bar mill, RO plant)
2018	Start of commercial operation of new BM2

Production & Auxiliary Facilities





LISCO Production (2016 - 2018)





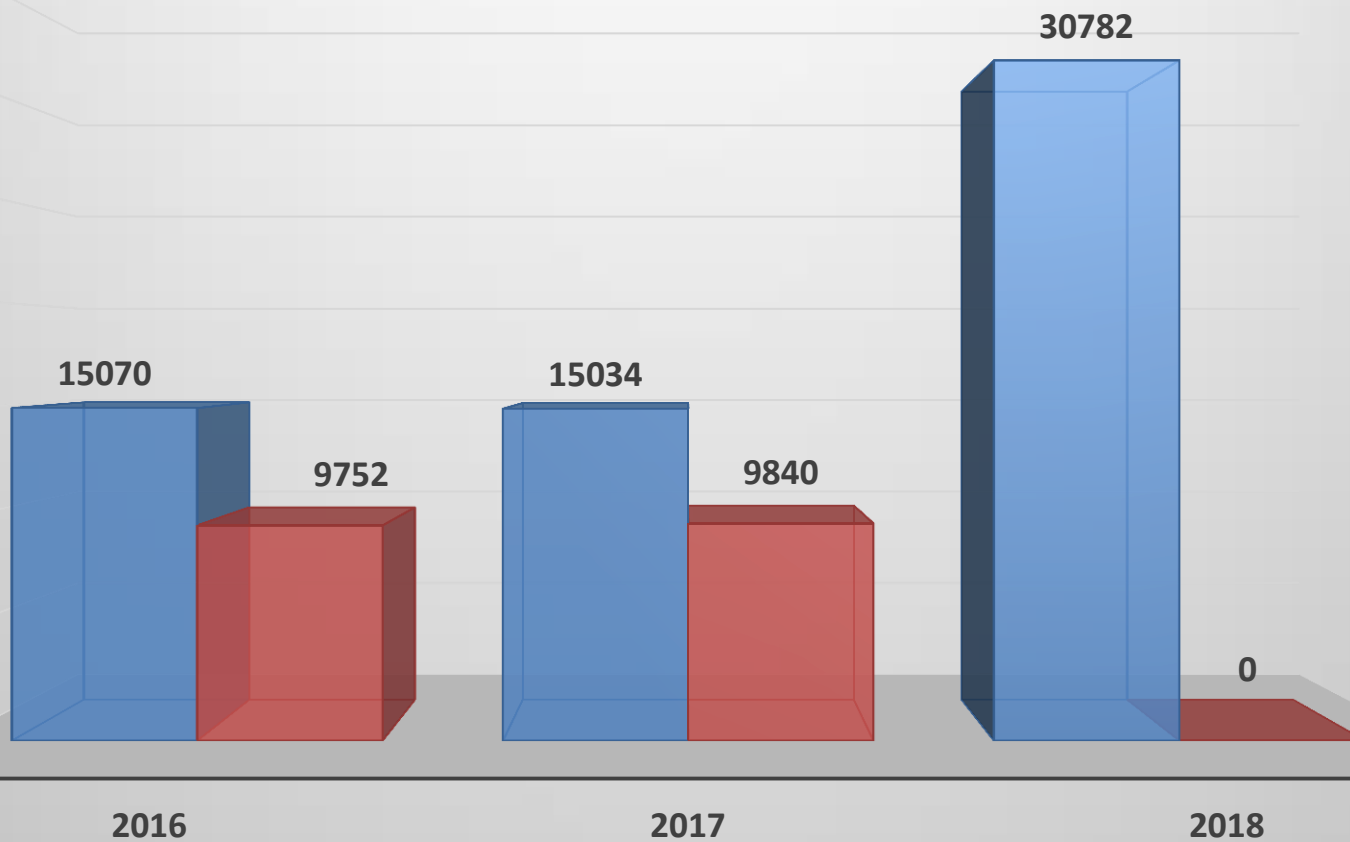
LISCO Sales (2015 – 2018)





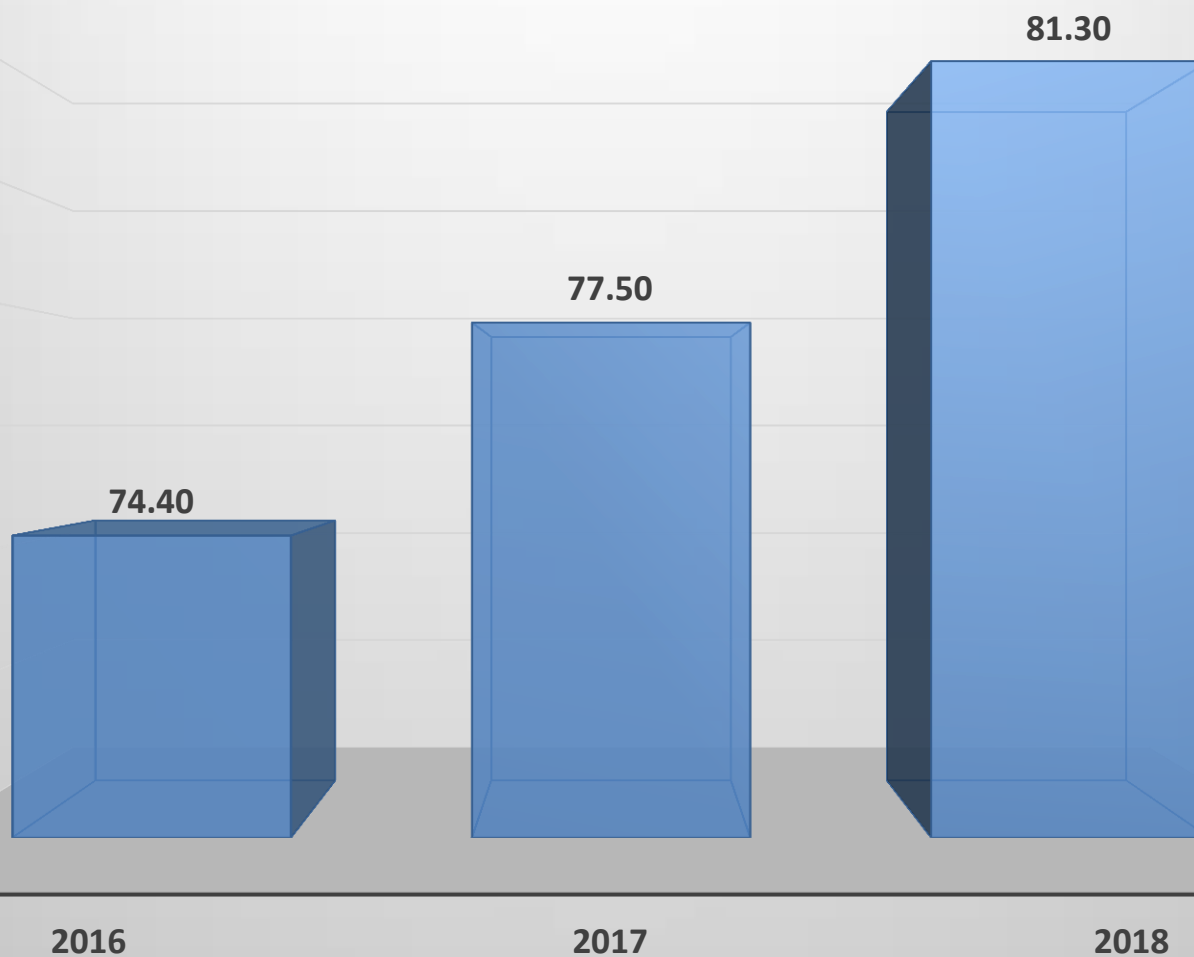
LISCO Finished Steel Imports (t)

■ Rod ■ HRC





% Ore Cost to Total DRI Cost





LISCO Expansion Master Plan

- In 2008 LISCO launched a MP to raise production to 4 mtpy of LS to be implemented in 2 phases.
- The Expansion MP comprises green & brown field projects
- Phase 1 of the MP focuses on long products plants expansion , Whereas Phase 2 on flat products plants.
- Completed MP Projects include new bar mill 2 inaugurated in Nov. 2018.
- The new BM2 will necessitate upgrading the upstream SMS1 & DRI plants to meet additional billet demand of 1.64 mtpy, where current SMS1 design output is 1.03 mtpy .
- The new Cold Mill is to be commissioned in the near future which requires upgrading upstream HSM & SMS2 plants to meet new mill HRC demand of 304,000 tpy..

Completed MP Projects



Project	Objective
New Bar Mill	Producing 800,000 TPY Rebars. To meet domestic demand
Port Basin Dredging & Berth Extension	Higher ore receiving capacity (7 mtpy)& higher capacity ships (150,000 DLT)
New RO Water Plant	Raise water output by 3000 m3/d
New Electrical Substation LBSS 4	Receive & distribute power to new projects
New Turbo-expander for heavy hydrocarbons removal from NG	Improve NG quality for DR Plant
Ore stock yard extension & new handling facilities	Raise ore stock yard capacity and loading rates (new 2 loader/unloader)
IT Network infrastructure (LAN)	Provide IT services & upgrade existing systems



Near Completion MP Projects

Project	% Completed	Objective
Upgrading Section Mill	95	Produce new section products & sizes
New Cold Mill Stand	93.5	Produce 200,000 tpy CRC to meet Galv. & Coating lines demand
Air Separation Plant (6600 m ³ /h)	91.0	Meeting MP Projects demand of O ₂ , N ₂ & Ar Gases
Upgrading ore unloading & HBI loading facilities	90	Raise ore ship unloading & HBI loading to 4000 t./h
Customized ERP	85	Efficient business processes
Revamping Power & Water Desalination Plant	83.3	Restoring PDP units to original capacities



LISCO Expansion Master Plan

Proposed MP Brown Field Projects

Project	Current Capacity (ton)		New Capacity (ton)	Main Items
DR plant	M1	550,000	1,000,000 DRI	<ul style="list-style-type: none">- Gas reformer upgrading- O₂ injection- New gas compressor
	M2	550,000	1,000,000 DRI	
	M3	650,000	850,000 HBI	
SMS1	1,030,000		1,630,000 Billets & Blooms	<ul style="list-style-type: none">- New 90 MVA transformers- New LF
SMS2	611,000		1,100,000 Slabs	<ul style="list-style-type: none">- New LF- Water Cooled Roofs- EBT
HSM	580,000		990,000	<ul style="list-style-type: none">- New Reheating Furnace- Hydraulic systems



Proposed MP Green Field Projects

- LISCO has green field projects option to meet MP projects material requirement:
 - New DR plant (1.76 Mtpy)
 - New utility units (Power, Water & Ind. gases)
 - New integrated DR/SMS plant (2 mtpy DRI & 1.30 mtpy billets).
- LISCO is seeking investment partnership to implement the above MP projects.



Other Projects

In its quest to diversify its revenues ,LISCO is undertaking an ambitious plan to set up projects that are not directly related to their core business namely :

- Down stream industry projects (Oil & Gas Pipe, Shipping Containers & LPG Gas Cylinders Plants) that utilize LISCO products as raw materials and Misurata Free Zone strategic location as project site.
- Investment oriented projects such as :
 - Purchase of cargo ship for shipping iron ore from source to LISCO.
 - Renewable energy projects (eg solar energy utilization in office buildings and roads lighting).

The above projects preliminary feasibility study indicators are very encouraging and would be implemented as JV projects with local and foreign partners.



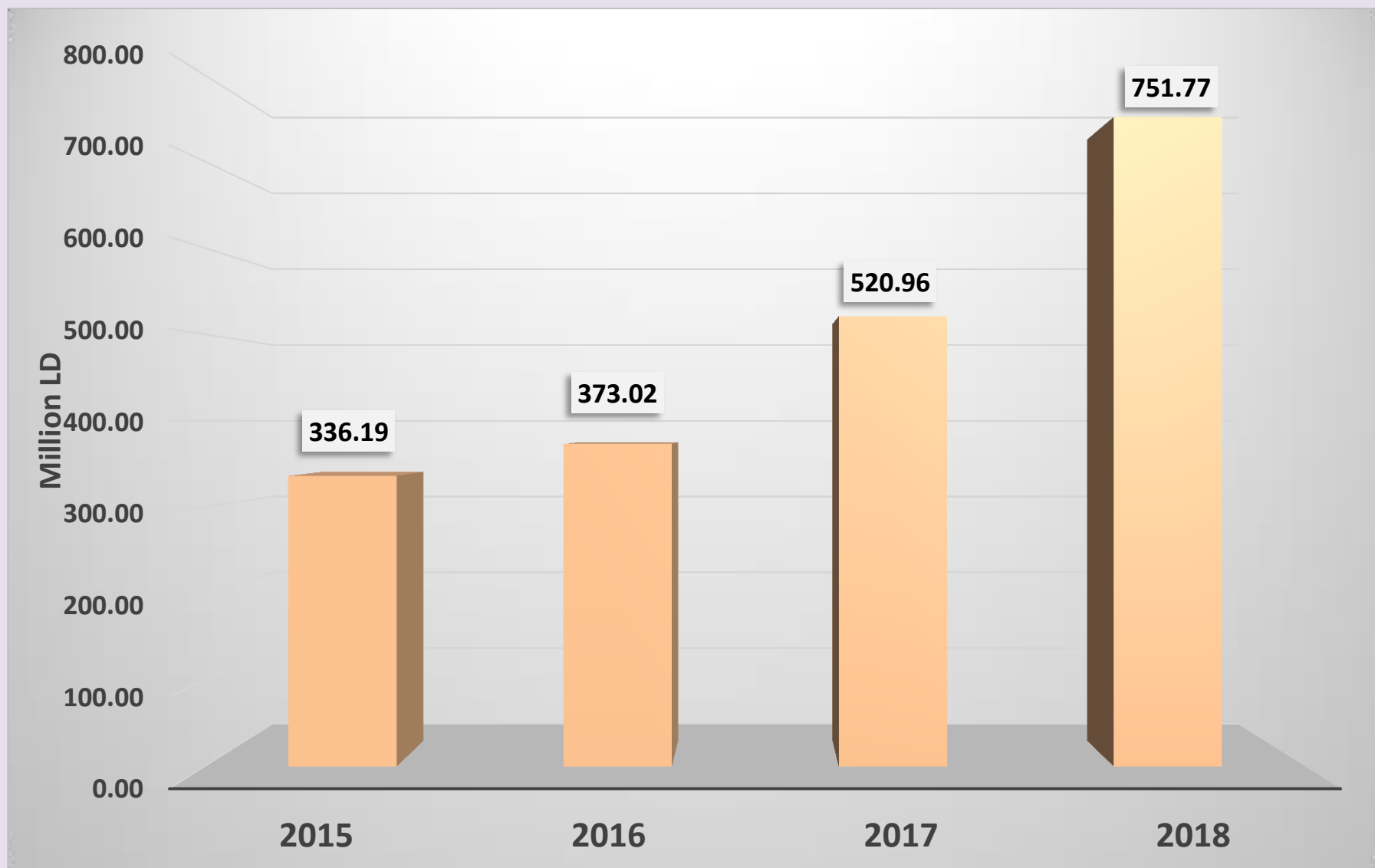
LISCO : The Road to Recovery

- 2018 witnessed the start of commercial operation of new modern BM2 with capacity of 800,000 tpy.
- 2018 saw an increase of total finished products output of 17 % & HBI output of 65% compared to 2017.
- In 2018 an increase of HRC export sales by 300 % & DRI/HBI export sales by 37% compared to 2017.
- In 2018 wire and galvanized coils products saw marked domestic sales increase.
- In Feb 2017 in London ,LISCO received the Best Exceptional Leadership in Crisis Award.
- LISCO revenues has risen **28 %** in 2018 compared to 2017.

LISCO Main Contributions

- Key contributor to the national economy with a value added contribution of 4.2% of GDP (2018).
- Over 3 decades LISCO managed to create tens of thousands of direct and indirect job opportunities for Libyan nationals.
- Provide an essential commodity for the growing domestic economic sectors (Construction, manufacturing & services)
- Establishing a base for numerous down stream industries.
- Exporting to numerous countries worldwide earning valuable hard currency.
- Launched the grandest environmental research project in the country by setting up 13 task teams to study the environmental impact of the industry .
- Sponsoring civil societies ,seminars , conferences and social events in addition to local communities all over the country

LISCO Value Added Contribution to GDP



LISCO International Awards & Certifications

- International Golden Star Award for Quality in 1999
- International New Millennium Award for Commercial Excellence 2001
- International Golden Millennium Award for Quality Excellency 2002
- ISO 9001 Certification TQM in 2002/2008
- Latin America Technical Award for Quality & Best Trademark 2002
- The 14th International Award for Industrial & Auxiliary Structures 2002
- International New Millennium Award for Best Trademark 2001
- International Royal Award for Exceptional Performance & Excellence in Quality 2003
- ISO 14001 Certification for Environmental management 2008
- ISO 18001 Certification for Industrial health & safety management 2009
- Global Green Award for Environmental Achievement & Sustainability Practices 2014
- Exceptional Leadership in Crisis Award 2017

Libyan I & S Industry : Challenges



- Imports & dumping practices of foreign steel producers .
- Power & NG supply disruptions.
- Stiff competition from private steel producer in rebar market.
- Availability of local scrap & DRI quality iron ore in the future.
- The choice between green field & brown field projects for future expansion & projects financing.
- Raw material & consumables prices hikes by suppliers.



Libyan I & S Industry : Opportunities

- Libya has growing economy requiring steel for the various c sectors (Construction , infrastructure ,Oil & Gas, Manufacturing)
- Vibrant down stream industry private sector that rely on steel products as raw material.
- Libya strategic location on the Mediterranean Sea with access to MENA, Africa & Southern Europe regions .
- Proven iron ore reserve of 1000 mt with ROM 45-55 % Fe .
- Expansion & modernization of the steel industry to produce value added steel products.
- Well established Free Zone in Misurata to set up industrial & services enterprises with access to infrastructure facilities (Port ,power & services etc).

Conclusion



- Libya GDP expected to grow by 5.5 % in 2019. (WB)
- The need for diverse sources of iron ores necessitates updating the studies on utilization of domestic iron ores.
- Focus on value added quality steels needed for the growth of domestic downstream industries.
- LISCO is still key player in the domestic and regional steel markets.
- Economical indicators show the viability of the expansion of the industry.
- Domestic & foreign Investment partnership is needed to complete the expansion projects.
- The industry is making substantial contribution to Libyan GDP, the growth of the industry will diversify the economy.

