

# General Investor UPDATE

October, 2015

#### FORGING AHEAD

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- This Presentation may contain forward-looking statements within the meaning of the United States Securities Exchange Act of 1934 and forward-looking information within the meaning of applicable Canadian securities law (collectively "forward looking statements").
- Material forward-looking statements include statements or information with respect to the obligations of the Company and its counter parties under various agreements related to the Company's seafloor development; the Company's ability to locate, mine and transport mineralized material from the seafloor; the method of transport of mineralized material from the Company's Solwara and CCZ projects; any estimates of anticipated costs and expenditures; development and production timelines and the cost, timing of delivery and effectiveness of the seafloor production tools, the riser and lifting system and the production support vessel; and plans to upgrade a portion of the resources at the CCZ Project.
- We have made numerous assumptions about the material forward-looking statements contained herein, including assumptions relating to the future price of copper, gold, silver and zinc; that anticipated costs and expenditures will be as planned; that key components of the seafloor production system will be built on schedule and in accordance with Nautilus' specifications; and our ability to achieve our goals. Even though our management believes that the assumptions made and the expectations represented by such statements are reasonable, there can be no assurance that the forward-looking statements will prove to be accurate. Accordingly you should not place undue reliance on forward-looking statements.
- Forward-looking statements by their nature involve known and unknown risks, uncertainties and other factors which may cause the actual results to differ materially from those described in forward-looking statements. "Risk Factors" are presented in the Company's most recent Annual Information Form, available on SEDAR (www.sedar.com). Except as required by law, we undertake no obligation to update forward-looking statements and information as conditions change.
- As discussed in the Company's most recent Annual Information Form, the production decision for the Solwara 1 Project was not based on a feasibility study of mineral reserves demonstrating economic and technical viability. Accordingly, there is increased uncertainty and economic and technical risks of failure associated with this production decision. Production and economic variables may vary considerably due to the absence of a completed and detailed analysis as would be included in a feasibility study. The risks associated with this decision are set forth in the Company's Annual Information Form under the heading "Risk Factors".
- Nautilus requires significant additional funding to advance the Solwara 1 Project towards production. There can be no assurance that the Company will be able to obtain at all or on acceptable terms the remaining financing necessary to fund the completion of the build and the deployment of the Company's seafloor production system.
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- Notes Regarding Technical Disclosure
  - Resource information for the Solwara project is derived from a technical report titled "Mineral Resource Estimate, Solwara Project, Bismarck Sea, PNG" dated and filed on SEDAR on March 23, 2012, and summarized in a news release dated November 25, 2011. Indicated resources of 74,000 tonnes of copper is based on 1.03 million tonnes at an average grade of 7.2%.
  - Resource information for the CCZ Project is derived from the technical report titled "Updated NI 43-101 Technical Report, Clarion-Clipperton Zone Project, Pacific Ocean" dated March 20, 2013 and filed on SEDAR on March 21, 2013, and summarized in a news release dated September 18, 2012, unless otherwise stated

## Who is Nautilus Minerals?



- TSX listed and trading on OTCQX
- Market capitalisation ~CAD\$136 million as at October 26, 2015
- Cash on hand US\$84.6 million as at June 30, 2015
- *"The world's leading company for seafloor mining"*

Seafloor mining - the next big disruptive technology

- Named to 2015 OTCQX Best 50
- Advancing projects in PNG and the Pacific



Capitalization	(as at October 26, 2015)
Ticker	NUS (TSX) NUSMF (OTCQX)
Current Share price	C\$0.30
52 Week High/Low	C\$0.56 / C\$0.23
Basic Shares Outstanding	446 million
Shares O/S Fully Diluted	453 million

#### Seafloor Massive Sulphides



- Seafloor Massive Sulphide ("SMS") deposits form on the ocean floor
- High grades of copper, zinc, gold, silver and other trace metals
- Modern-day equivalents of ancient 'land-based' Volcanogenic Massive Sulphide ("VMS")
- "Cluster" near plate boundaries



- 1. Initation of hydrothermal discharge and chimney growth
- 2. Collapse of old chimney and growth of new chinmney
- 3. Growth of mineral sulphide mound by accumulation of chimney talus and defocusing of hydrothermal discharge
- 4. Decrease of mound permeability and intra-mound sulphide precipitation, replacement and remobilisation



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#### Why go to the sea?





#### Land-based mine



Deep sea production



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Substantial potential supply gap will start opening up from 2020 onwards Production need Growth = 2.5% pa World mine production, 2000-2035 (2010 - 2035)('000t contained copper in concentrates and SXEW cathode) New technology Unknown projects 26000 Prospects 24000 Extra potential supp Possible projects requirement = 11.3M 22000 pa Cu by 2035 Probable projects 20000 Firm projects 18000 16000 14000 12000 Existing mines 10000 2000 Data: CRU Analysis

- World's demand for metals continues to rise
- Land resources are stretched; declining grades, more waste, larger footprints
- Seafloor believed to contain substantial amounts of key metals (Cu, Ni, Co, Mn, Au, Zn)
- ✓ 40+ years of Oil and Gas development and R&D to leverage off
- ✓ HIGH GRADES



Cu Grades are falling on land

Solwara 1

#### How big could this be?





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#### Advantages of seafloor mining



- 1. High grades
- 2. Minimal waste
- 3. Highly scalable
- 4. Reusable equipment
- 5. Low capital intensity

#### 6. Competitive OPEX

- 7. No land clearance or people moved
- 8. Increased worker safety

 40<sup>+</sup> years offshore oil & gas investment to leverage off



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#### Solwara 1 Project





- First project Solwara 1
- Bismarck Sea, Papua New Guinea
- 30 km from nearest coast
- Small extraction area:
   0.1 km<sup>2</sup>
- In partnership with PNG Government
- Fully permitted
- Strong local and national support

# Partnership with Independent State of Papua New Guinea (the "State")



- The State has taken a 15% interest in the Project
- Funds of US\$120,000,000 received by Nautilus for their 15% interest
- Options to increase their interest (to a total of 30%)
- Work in PNG
  - Building Capacity



- Health Initiatives
- Collaborations
- **Education Initiatives**
- Infrastructure Initiatives
- Community Partnerships











Various community initiatives in PNG

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# Accessing high grade ore..... but with lower Capital Intensity





- Surface mines are capital intensive and fixed
- Once constructed, the Nautilus capital investment can be redeployed at multiple sites, for minimum additional capital cost

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#### Industry economics





- NUS capital investment is re-usable
- Minimal additional capital costs for next deposit
- Ability to commence mining at next deposit within days

2014 C1 Cash Cost (US\$/t Cu)

- No overburden removal
- No onsite infrastructure or access requirements

- Very high grade material
- Copper and gold production
- Expected initial production rate 3,000 4,000t per day after ramp up
- Design capacity of the mining tools is ~6,000t per day
- Pump ultimately the limiting factor
- Reduction in operating costs through:
  - option to purchase vessel
  - fuel
  - improved maintenance
  - improved inventory management
  - improved equipment utilisation/mine planning

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5.00

4.00

3.00

2.00

1.00

0.00

-1.00

-2.00

\$2.61

## Seafloor Production System – how it works



Seafloor Production System

PRODUCTION SUPPORT VESSEL (PSV)

RISER AND LIFTING SYSTEM (RALS)

SUBSEA SLURRY LIFT PUMP (SSLP)

> SEAFLOOR PRODUCTION TOOLS (SPTs)

Using existing technology from the offshore oil and gas sector, combined with rock cutting and materials handling technologies used in land-based operations

- Production Support Vessel
  - Operational base. Power supply and dewatering plant, ore storage and control centre
- Riser and Lifting System
  - Lifts material to the surface
- Seafloor Production Tools
  - Three remotely operated machines, cutting and collecting material







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#### Using the best – wherever they are





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#### The Seafloor Production Tools



- Combining technologies used in offshore oil and gas and coal industry
  - Offshore oil and gas has been using trenchers to lay cables for over 20 years at depths of 4500 - 6500m below sea level
  - Coal industry has been using road headers (continuous miner) for decades in underground mines
  - We are combining these technologies to create our Seafloor Production Tools



# Seafloor Production Tools (all being commissioned)









Auxiliary Cutter			
	Length:	15.8 m	
	Width:	6.0 m	
	Height:	7.6 m	
	Boom swing:	11.6 m	
	Boom cutting:	+4 -1.0 m	
	Weight:	250 Te	

Bulk Cutter		
Length:	14.2 m	
Width:	4.2 m	
Height:	6.8 m	
Cutter Width:	4.2 m	
Cutting Height:	+4 -0.5 m	
Weight:	310 Te	

Collecting Machine	
Length:	16.5 m
Width:	6.0 m
Height:	7.6 m
Collection Range - height:	-2 m +5 m
Collection Range - Width:	+ 4 m
Weight:	200 Te







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## **Current status of Seafloor Production Tools**

#### Seafloor Production Tools (SPTs)

- BC, CM and AC undergoing commissioning
- Delivery expected Q4 2015
- Wet testing planned H1 2016
- Umbilical winches for the 3 SPTs
  - FAT completed
  - Installation of the umbilical cable currently underway
  - Dispatch to the shipyard by Q4 2015 for integration into the vessel





## Pump and Pipe: standard oil and gas equipment



- Pump is being used in the oil and gas industry
- Pipes are standard riser pipes



**Riser** Pipe







Image courtesy of GE Oil & Gas



Mud Lift Pump built by GE Oil and Gas for Chevron for deep water drilling applications (similar to the unit being built for Nautilus Minerals).

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## Current status of Riser and Lifting System



- Riser and Ancillary Equipment
  - >50% complete
  - Welding of riser joints commenced January 2015 - ~35% complete
  - Delivery expected Q4 2015
  - Buoyancy and striker in storage
- Subsea Slurry and Lift Pump
  - > 50% complete
  - GE Oil and GAS has advised they have recommenced assembly of the SSLP (July 2015)
  - Delivery scheduled for mid 2016





# **Production Support Vessel**

- Vessel Charter signed
  - Low NUS capital requirement (\$18m Charters Guarantee only)
  - 5 year charter @US\$200K/day
  - Option to extend the charter or acquire the vessel (less a portion of the charter fees paid)
  - Vessel to be built by experienced yard in China
  - Delivery of vessel by end 2017
- Mid section basic design completed with preliminary ABS^ approval
- First steel cut September 2015
- Vessel is designed for use in offshore construction and seafloor mining
- Sufficient storage capacity for 7-10 days production
- Much of the Seafloor Production Equipment will be installed during vessel construction

^ American Bureau of Shipping FORGING AHEAD











#### Current status of the Production Support Vessel



- Marine Assets Corporation Vessel Charterer
- Fujian Mawei Shipbuilding Ltd.(FMSL) Building the Production Support Vessel (PSV)
- Packages awarded by FMSL for the PSV to world class suppliers:

Package	To Whom	Comments
Engines & thrusters packages	Rolls Royce Marine	The order secures the main engines, azimuth and tunnel thrusters
Cargo handling equipment	Bedeschi SPA	Will be used to load and recover the dewatered material into/from the storage holds
Cranes	MacGregor	Two knuckle boom units
Electrics	Siemens	Supply of the entire electrical installation for the PSV
Integrated vessel control system (IVCS)	Kongsberg Maritime	IVCS comprises dynamic positioning, marine automation, information management and navigation systems

 Vessel dewatering plant detailed design contract awarded to the DRA Group

#### Ore sales agreement Tongling



- Largest importer of copper concentrates into China
- Binding ore sales Heads of Agreement remains in place
  - 1.1mtpa (+- 20%) for 3 years
  - Nested copper concentrate and SMS-tolling pricing arrangement
  - Prompt payment 90% provisional payment on loading in PNG
  - International benchmark terms
  - 20% copper grade concentrate maximise gold recovery TC/RC premium
  - Gold value in pyrite value shared equally
- No tailings for Solwara 1– maximum utilization of resource, no waste



#### **Timeline to Production**





# <section-header>

- Predicted up to 5,000 SMS systems world wide (Hannington et al 2011)
- Looking beyond Solwara 1
- Exploration work focused in the Southwest and Central Pacific where we have prospective exploration tenements (granted and under application)
- To date, the Company has conducted exploration work in Papua New Guinea, Tonga, Solomon Islands and the CCZ to understand the potential resource and build a pipeline of commercially viable projects

# Polymetallic Nodules - massive resource - *significant hidden value*

- 1. Sponsored by Tongan Government
- 2. Nautilus has an NI 43-101 resource

410 million tonnes @ 1.2% Ni, 1.1% Cu, 0.24% Co, and 26.9% Mn\*

- ISA data (unpublished) indicates potential 670 million tonnes @1% Cu #
- 4. ISA working towards establishing regulations for exploitation by 2016
- 5. Nautilus has been undertaking concept studies in the areas of gathering, hoisting, and metallurgy
- 6. Nautilus recently completed a cruise to the CCZ with the intention of upgrading its current mineral resource from indicated to inferred, and collecting baseline engineering and environmental data

\*Resource estimates prepared by Mr Matthew Nimmo, Principal Geologist, Golder Associates Pty Ltd, Milton, Queensland, Australia. Mr Nimmo is a Member of the Australian Institute of Geoscientists, a full time employee of Golder, and fulfils the requirements to be a "qualified person" for the purposes of NI 43-101. For further details please refer to the technical report dated March 20, 2013 entitled "Updated NI 43-101 Technical Report, Clarion-Clipperton Zone Project, Pacific Ocean", prepared by Golder Associates Pty Ltd. and the Company's news release dated March 19, 2014.

# ISA, A geological model of polymetallic nodule deposits in the CCZ, Technical Study No 6, The potential quantity and grade of all amounts in excess of the NI 43-101 resource noted above are conceptual in nature. There has been insufficient exploration to define a mineral resource in respect of such amounts, and it is uncertain if further exploration will result in the target being delineated as a mineral resource.



- >16 other countries are interested in nodules
- Significant money invested in nodules over the years (today's figures around US\$3 billion)
- Largest Cu/Ni/Co resource in the world
- China Minmetals has just applied for its own licence (sponsored by Chinese Government)



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Minerals

# Seafloor Mining the next big disruptive technology for mining



HIGH GRADES – SMS > 7% copper and 6g/t gold<sup>1</sup>
 – Nodules: >4% Cu eq<sup>2</sup>

✓ UPSIDE – 38 systems identified to date along 5-10% of prospective geological strike
 – 410mt nodule resource > 4% Cu eq<sup>2</sup>, with massive upside

#### Huge resource potential on the seafloor

- ✓ FIRST FOLLOWER using proven technologies
- ✓ AGGREGATED mobile production vessels provide platform for longer term production potential; highly scalable
- SOCIALLY AND ENVIRONMENTALLY RESPONSIBLE small environmental footprint; minimal community impact; no tailings at site, minimal waste
- BUILDING LONG TERM VALUE FOR STAKEHOLDERS highly scalable; environmentally friendly; high grades

<sup>&</sup>lt;sup>1</sup> See Solwara technical report referred to in slide 2

<sup>&</sup>lt;sup>2</sup> \$ price per lb - Cu@\$2.75, Ni@\$6.50 and Co@\$10.00 - Applicable grades are 1.2% Ni, 0.24% Co and 1.1% Cu. Abundance cut-off of 6 wet kg/m<sup>2</sup>. See CCZ technical report referred to in slide 2

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