

Sakura Ferroalloys Project

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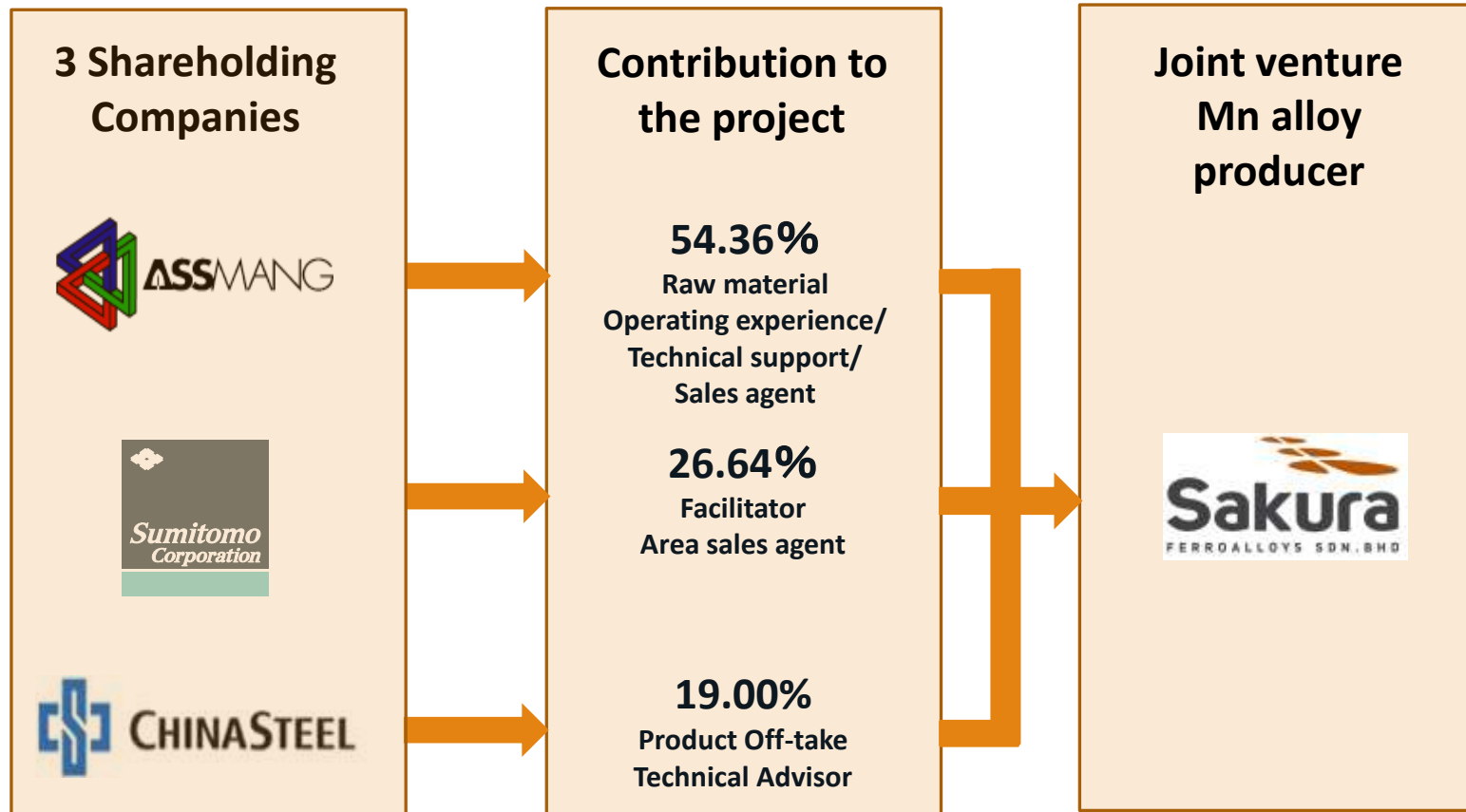


Sakura Ferroalloys ?

Project to construct two 81 MVA furnaces
for Mn-alloy production in the Samalaju
Industrial Park, Sarawak, Malaysia



Multinational project



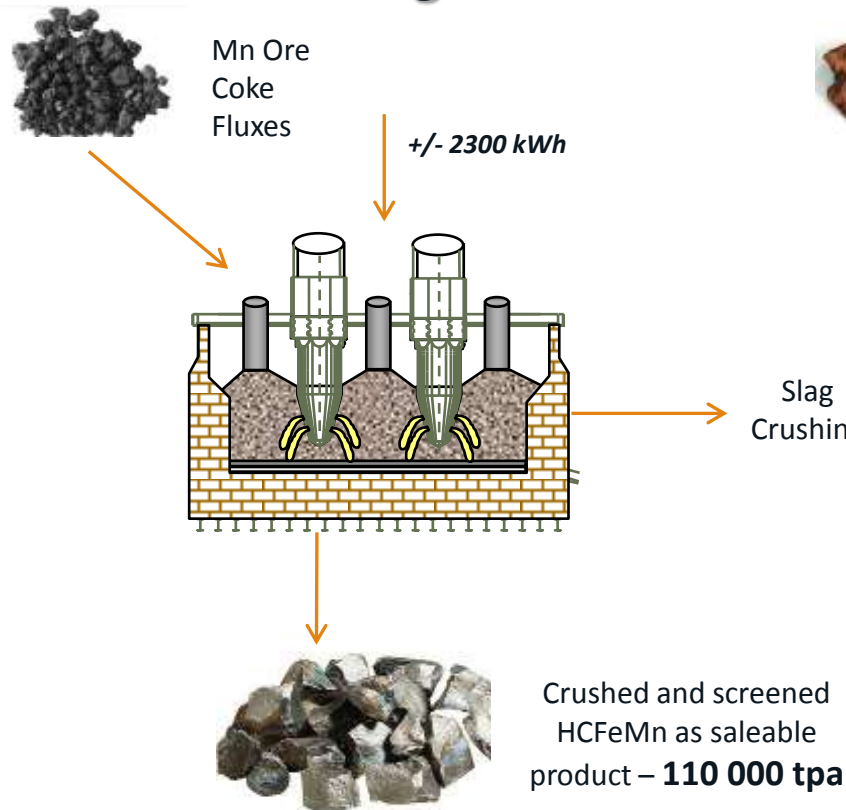
Project details

Capital	<ul style="list-style-type: none"> ▪ USD 328 million
Capacity	<ul style="list-style-type: none"> ▪ 110ktpa of HCFeMn and 70ktpa SiMn
Land	<ul style="list-style-type: none"> ▪ Site of 100 ha (potential for phase 2)
Power	<ul style="list-style-type: none"> ▪ Signed PPA for 75MW to 80MW – hydro - power
Labour	<ul style="list-style-type: none"> ▪ Approx 1000 people - Construction phase ▪ 186 people - Operational phase ▪ 115 people - Outsourced to non core functions
Water	<ul style="list-style-type: none"> ▪ 500 – 1000 m³/day
Logistics	<ul style="list-style-type: none"> ▪ Ore: 400kt pa ▪ Reductant: 130kt pa ▪ Final product: 180 kt pa

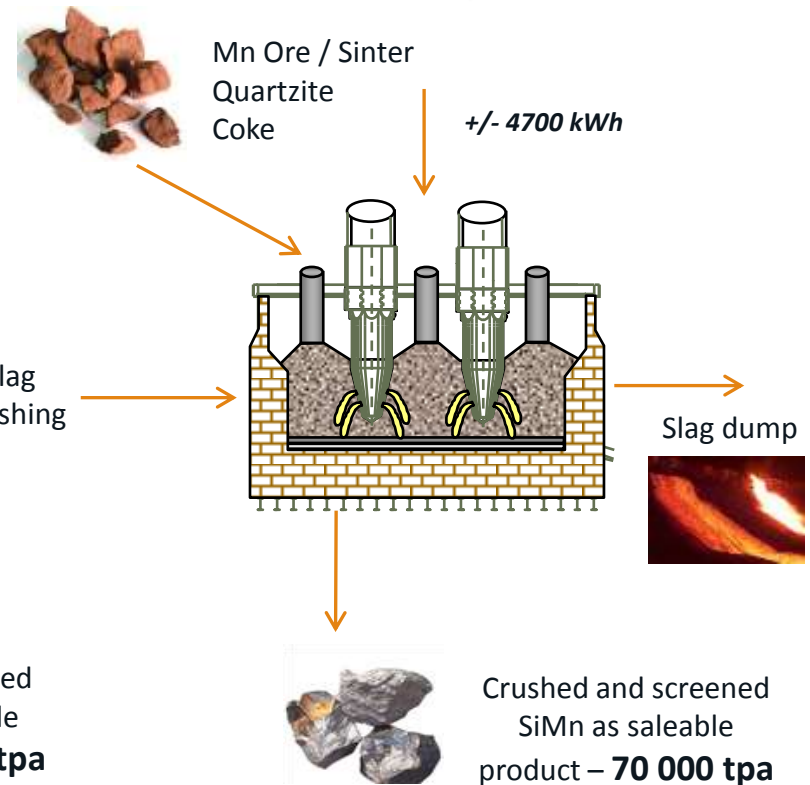


Smelting process flow

Ferromanganese



Silicomanganese



Project progress to date

Dates	Major milestones achieved
Sept 2011	First visit to site of shareholders
June 2012	Project Pre-feasibility completed and approved
February 2013	Detailed Feasibility Study completed and approved
July 2013	Board approval obtained from Shareholders
September 2013	Obtained Environmental Impact Assessment approval
October 2013	Land offer and Power Purchase Agreement signed
November 2013	Metix appointed as Lump Sum Turn Key contractor
December 2013	Commenced with site clearing activities
February 2014	Commence on-site construction activities
April 2014	First concrete pour – Furnace foundation
October 2015*	Commission 1 st Furnace*



Project progress photos



**Greenfield site prior to
project start ~ April
2013**



Project progress photos



**Project site aerial view
as at end April 2014**



Project progress photos



**First concrete pour on
furnace foundation in
April 2014**



Project progress photos



Inspection of Furnace shell during trial assembly in China



Project progress photos



**Electrode bottom components
- trial assembly in France and
South Africa.**



Project future milestones

Dates	Major milestones
May 2014	Commence shipment of manufactured plant & equipment
June 2014	Erection of first structural steel and furnace shell
End June 2015	First raw material delivered to Sarawak (Bintulu)
End July 2015	First raw material delivered to site
September 2015	Commissioning of Raw Material Section
October 2015	Commission and production ramp-up of Furnace 1
January 2016	Commission and production ramp-up of Furnace 2
June 2016	Achieve full operating capacity



Project key success factors

- Competitively priced hydro – electricity
- Excellent infrastructure - Samalaju
- Investment incentives
- Large, efficient production units
- Shareholder synergy and support
- Future expansion options



Questions?

