

10 year Corporate Strategy

Mike Garcia – CEO
Franz Holy - COO




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Vision - Status - Targets

VISION

-  Leading Producer of Vanadium
-  Profitable producer of Steel products
-  Produce Steel and Vanadium in a safe, clean and efficient way

STATUS

1. Right Size for the Market, vertically integrated (except coal)
2. Vanadium Products , unique and leading position
3. Steel Products

TARGET

Optimize Capacities for Steel and Vanadium,
Secure Mine Capacity 20 years+

Increase Output from 8 kt to 11 kt V

Profitable at Import Parity price

Executive Summary

Two factors will mainly influence Evraz Highveld's (EH) future development:

- ❑ Local market pegged to import parity
- ❑ Forecasted development of South African and neighboring steel markets will experience moderate 5% yearly growth for the next 5-10 years

Strategy: achieve profitable steel product operations through increasing efficiency and doubling capacity in 10 years.

ACTION	TIME, Years	TARGET	Output, MT
PHASE 1			
Increase production and sales efficiency	2	Fixed costs lower 15%, yield up 5%	0,9
Optimize and align capacity	5	3 of 6 Furnaces and 2 of 3 BOFs	1,1
PHASE 2			
Double capacity	10	6 IP Furnaces and 3 BOFs	1,8

□ Major risks and mitigation plan

Risk	Negative impact	Mitigation plan
Labour	Shortage of skills and strong unions may lead to significant increase of labour costs	Continue with in-house training and retention programs as well as improvement of safety and working conditions to become employer of choice
Electricity	Potential lack of energy, including the risk of blackouts in the next 3-4 years. Currently announced steep price increases (75% over 3 years) may be followed by more price increases	Co-generation project should insure near self-sufficiency in electricity supply as well as significantly improve emissions profile
Environmental	Failure to comply with water/air/waste regulations may result in temporary or even permanent plant shutdown	Visible progress, sound environmental plans as well as close co-operation with the environmental authorities

□ Description of the asset

The asset comprises a mine, Mapochs Mine (at Roossenekal, about 120 km northeast of the Steelworks) and the Steelworks itself (located in eMalahleni/Witbank, about 100 km east of Pretoria)

Evrax Highveld's iron and steel works annually produce ~ 800 kt of steel blocks, where as

- 35% to manufacture structural sections and rails
- 50% to manufacture plates and coiled plates and sheets.
- 15% of the steel blocks is converted to cast billets/slabs to be sold for re-rolling

Other products of the iron and steel works are:

- High grade vanadium slag used to produce Vanadium products
- Titaniferous slag used in blast furnace operations to prolong furnace life

The mine and the Iron and Steel works consists of:

Mapochs Mine

- A mining of high TiO_2 (~12,8%) and V_2O_5 (~1,5%) bearing Magnetite Ore with about 53% Fe
- A new mining plan is presently under preparation



□ Description of the asset

Iron making:

- 13 pre-reduction kilns
- 7 electric smelting furnaces (3 OSB, 4 SAF), 6 in use

Steel plant:

- 4 Shaking ladles for vanadium extraction
- 3 Basic oxygen furnaces
- 2 Ladle Furnaces
- 4 Continuous casters

Vanadium Slag Processing Plant (grinding and packing)

Rolling Mills







- 1 Universal Structural Mill (330 kt/yr)
- Combined Plate/Steckel Mill (480 kt/yr)




Due to the high titanium content of the magnetite ore it cannot be smelted in conventional blast furnaces. Evraz Highveld developed its own method of smelting the magnetite by pre-reduction in the Kilns (~ 45%), smelting and final reduction in Electric Furnaces with separation of Titanium Oxides and De-Vanadisation in the Shaking Ladles. Then conventional BOF-Shop practice follows.

Plant predictability & performance improvement

Iron Plant

-  The main activities executed as part of the project have been:
 -  Improving raw material qualities
 -  Hot metal handling crane upgrade
 -  Rail alignments in Hot Charge Area
 -  Upgrade of Ironmaking Rail Infrastructure
 -  Installation of Kiln Raw Gas Stack Caps

-  All work as per this project finished

□ Plant predictability & performance improvement

□ **Steel Plant**

- The main activities executed as part of the project have been:
 - Reline no.3 BOF
 - Replace lower hood section of no.3 BOF
 - Replace no1. BOF hood
 - Relign and align no.1 BOF trunnion and drive system
 - Crane gantry and rail repairs throughout the steel plant
 - Hot metal and block handling crane refurbishment
 - Refurbish Water Treatment Plants
 - Refurbish various Casting Machines

- All work finished except BOF 3 hood change, which is still in progress

Plant predictability & performance improvement

Structural Mill

- The main activities executed as part of the project have been:
 - Machine URM Mill Stand, replace liners
 - Replace obsolete DC drives at the Roughing Mill area
 - Replace obsolete DC drives on RSM motors in 2011
- All work as per this project finished

Flat Mill

- The main activities executed as part of the project have been:
 - Hot shear modification and repairs
 - Refurbish cooling beds
 - Extensive cold shear maintenance
 - Exchange of obsolete high pressure pipe systems
- All work as per this project finished

□ Plant predictability & performance improvement

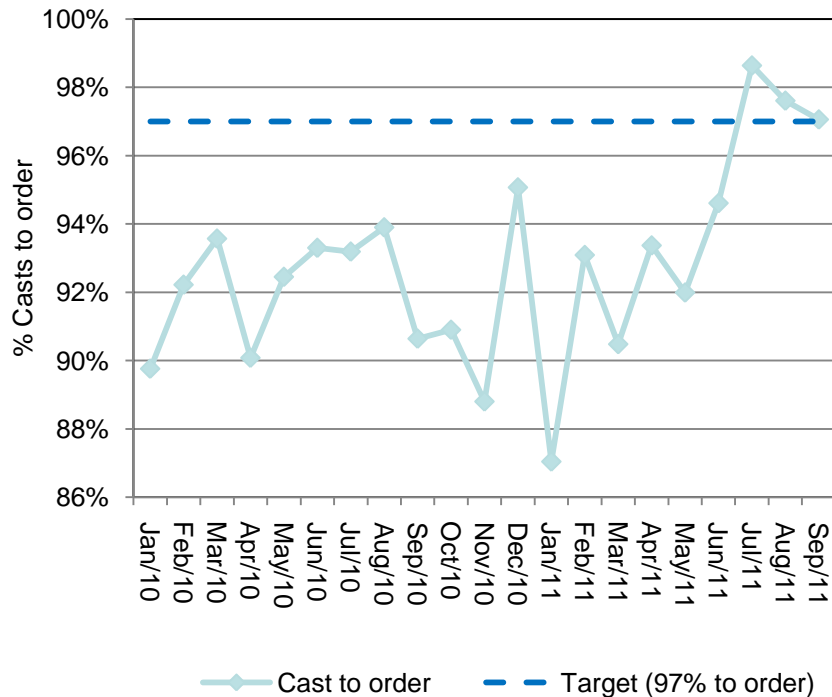
□ Engineering Division

- The main activities executed as part of the project have been:
 - Transformer, circuit breaker, income feeder upgrade and maintenance
 - Upgrade east 1 and 2 substations
 - Upgrade interplant rail infrastructure to 57 kg rails
 - Improvements in drainage systems and road repairs
- All work as per this project done except rail upgrade which is about 50% finished
- Rail upgrade was scheduled to commence till December

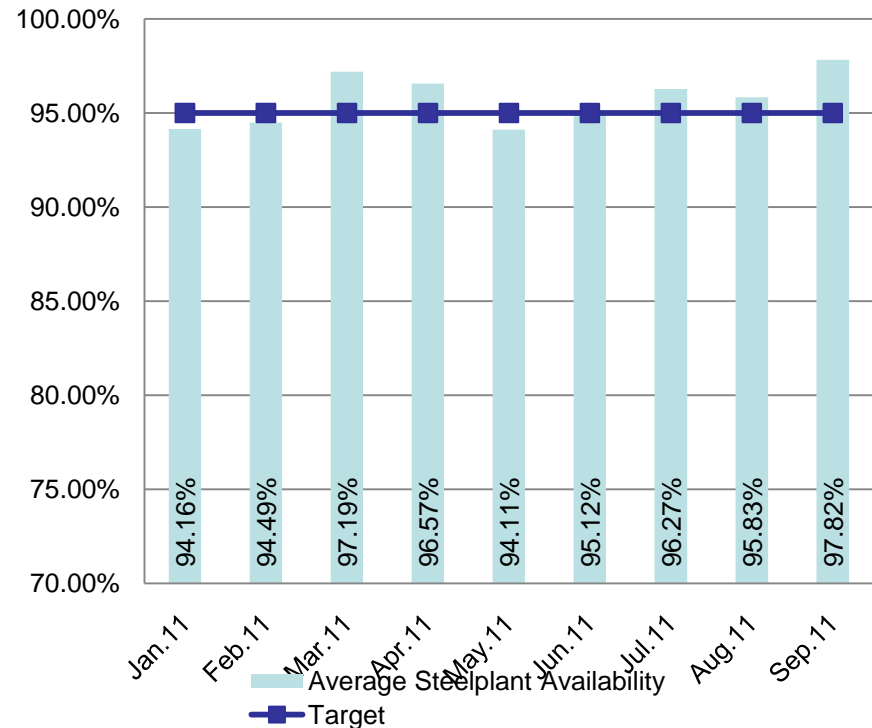
Plant predictability & performance improvement

- Total costs within approved budget
- All set targets within expected ranges, plants are ramping up. Improvements are permanently monitored
- Below as an example performance monitoring in Steel Plant

Specification attainment



Steelplant Average Availability





Strategy for Asset Development

Overview of Strategy and Asset Development¹⁴

Area/Phases

Target

Measure

Phase 1

Market

- Grow in South and southern Africa
- Increase Market Share in growing ZA Market
- Re-establish competitiveness based on Import parity prices
- Re-establish and Improve Customer relationship

- *Re-shape Sales Channel Structure*
- *Build new customer relations*
- *Drastically improve process efficiencies and optimize production portfolio and capacities*

Increase Efficiencies

- Control and balance material flow throughout whole process
- Improve yields and production efficiency
- Minimize losses and out-of-aim production
- Optimize Purchasing and Contractors handling

- *Implement Continuous Improvement and Lean Management Systems*
- *Improve Ore quality delivered to Iron Plant*
- *Improve Through-Yield losses by 5% (2 years)*
- *Decrease Fixed Costs by 15% in 2 years (20% in 5 years)*
- *Install proper monitoring and reporting tools*
- *Improve Production Planning between Steel Plant and Mills*

Optimize Capacity and Production Costs for maximum Mill Output

- De-bottleneck Mills for 1 mtpa rolled products
- Match and optimize Mine, Iron and Steel capacities
- Install CoGeneration (up to 100 MW) to decrease costs, dependancies and environmental footprint
- Improve Quality of Steel and Final Product

- *Install preheating furnaces in front of IP to increase throughput and reduce Energy consumption (only 3 Furnaces necessary for this production level)*
- *Convert Shaking Ladle Process to „NTMK“ Process (only 1-2 necessary for this production level)*
- *Install De-S Unit*
- *Operate 2 BOF's only for 1,1 Mio. t/a cast steel production*
- *Add Cooling Beds and Dispatch facilities to enhance Mill Output*

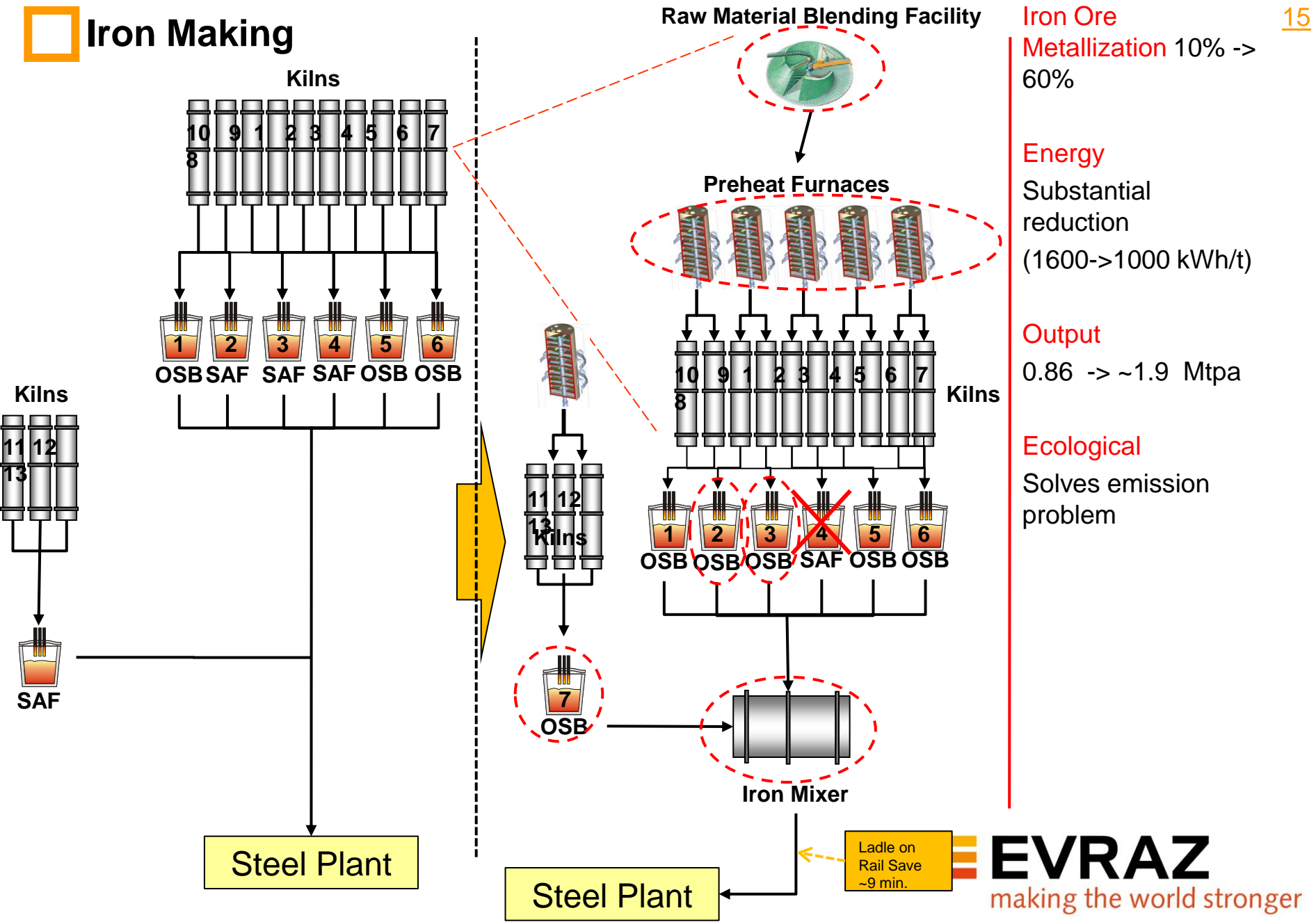
Phase 2

Double (initial) Capacity

- Increase Iron Production up to 1,9 mtpa
- Increase CoGeneration up to 200 MW
- Increase Mill output to 1,4 mtpa
- Improve Product Portfolio to support Warehouse and Direct Sales Initiatives

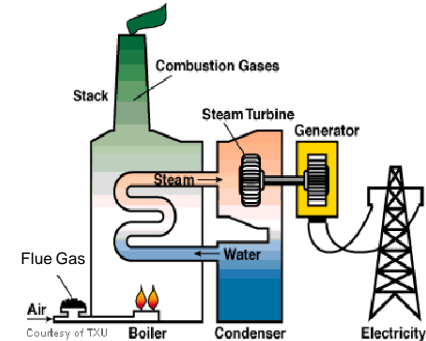
- *Install preheating furnaces for remaining IP Furnaces*
- *Install additional De-S Unit*
- *Operate 3rd (existing) BOF*
- *Install Degassing Unit (RH or VD)*
- *Built additional rolling capacity*

Iron Making



Co-Generation Project

- ❑ Evraz Highveld has the possibility of generating electrical power by means of energy rich flue gasses produced in its operation.
- ❑ Benefits at full (up to 200 MW) Capacity (Preliminary findings prior to full FS results):
 - ❑ Electrical Energy at a discounted rate
 - ❑ Reduction in water usage (13 Kilns) – 3000 MI per year
 - ❑ Reduction/elimination in particulate matter (PM) emissions
 - ❑ Possibility to supply Hot Water for heating/sanitary/Water Treatment
 - ❑ Reduction in NOx and SOx emissions.



- ❑ Project to be completed in 3 phases
- ❑ Phase 1 : Pre Feasibility Study (PFS) (completed)
 - ❑ Basic engineering / concept generation
 - ❑ 30% accurate cost estimate
- ❑ Phase 2 : Definitive Feasibility Study (DFS)
 - ❑ Detailed Engineering Design
 - ❑ 10% accurate cost estimate
- ❑ Phase 3 : Project Execution
 - ❑ Procurement
 - ❑ Construction
 - ❑ Commissioning

Phase 1 Schedule

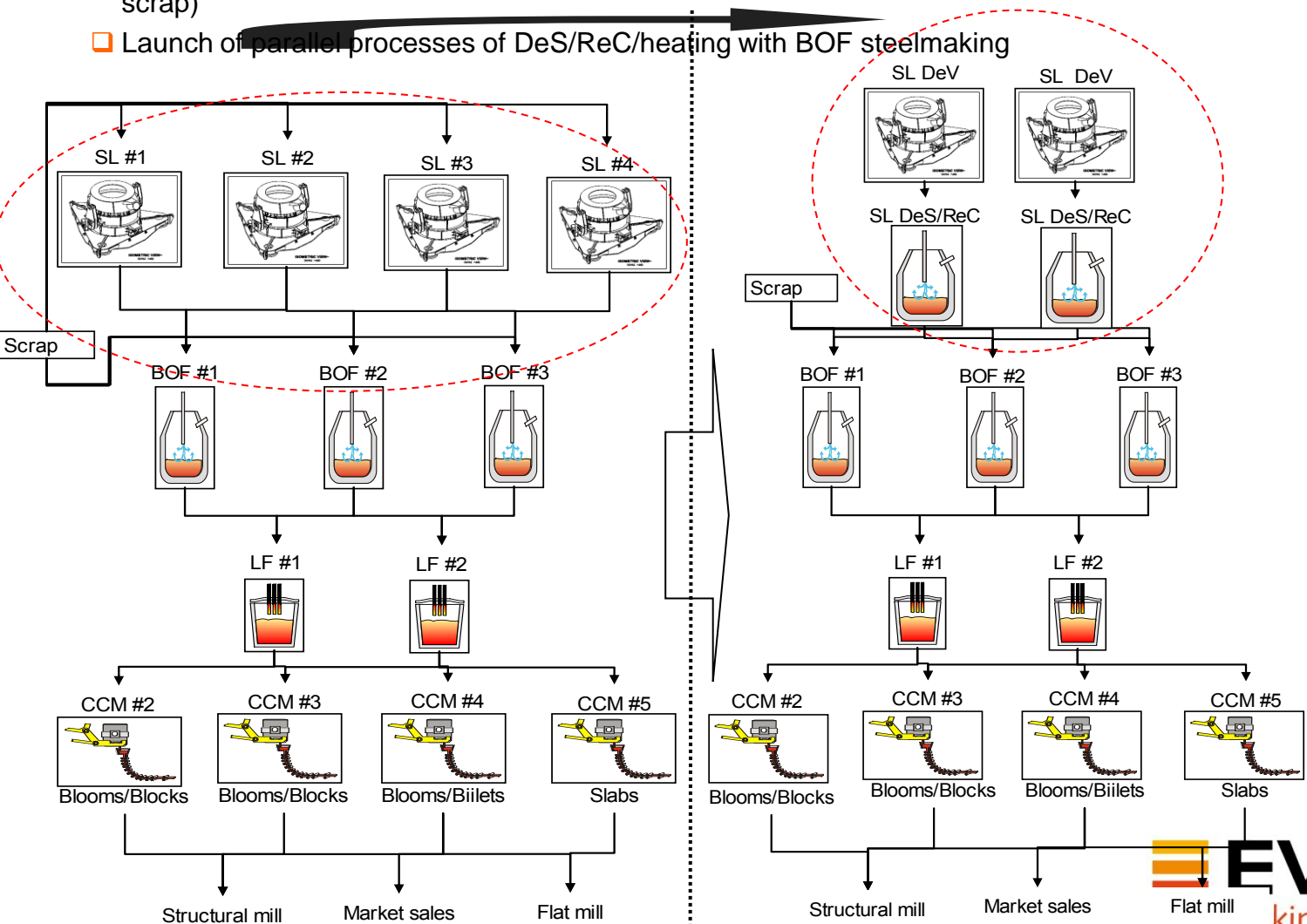
Task Name	Duration	Start	Finish	September		October			November			December			January			February							
				8/2	9/0	9/1	9/2	10/0	10/1	10/2	10/3	11/0	11/1	11/2	11/20	11/21	11/22	12/0	12/1	12/2	1/0	1/1	1/2	2/0	2/1
Highveld steel Project Phase 1	91 days	Fri 10/10/08	Tue 11/02/22																						
Kick off meeting	3 hrs	Fri 10/10/08	Fri 10/10/08																						
Signing of NDA	7 days	Fri 10/10/08	Mon 10/10/18																						
Data collection	14 days	Mon 10/10/18	Thu 10/11/04																						
Full scope development	21 days	Mon 10/10/18	Mon 10/11/15																						
Preparation by contractors	9 days	Tue 10/11/16	Fri 10/11/26																						
Site Visit by contractors	1 day	Mon 10/11/29	Mon 10/11/29																						
Report preparation by contractors	23 days	Tue 10/11/30	Mon 11/01/10																						
Proposal submission by contractors	1 day	Tue 11/01/11	Tue 11/01/11																						
Final report preparation and adjudication	29 days	Wed 11/01/12	Mon 11/02/21																						
Final report to higveld	1 day	Tue 11/02/22	Tue 11/02/22																						

Steelmaking development

Target – to increase productivity/capacity by reducing tap-to-tap time

Main changes:

- Exclusion of scrap from SL charge (decrease time spent to charge scrap into SL and decrease time spent to dissolve scrap)
- Launch of parallel processes of DeS/ReC/heating with BOF steelmaking



tap-to-tap
72 min -> 50 min

quality
-> additional secondary steelmaking abilities

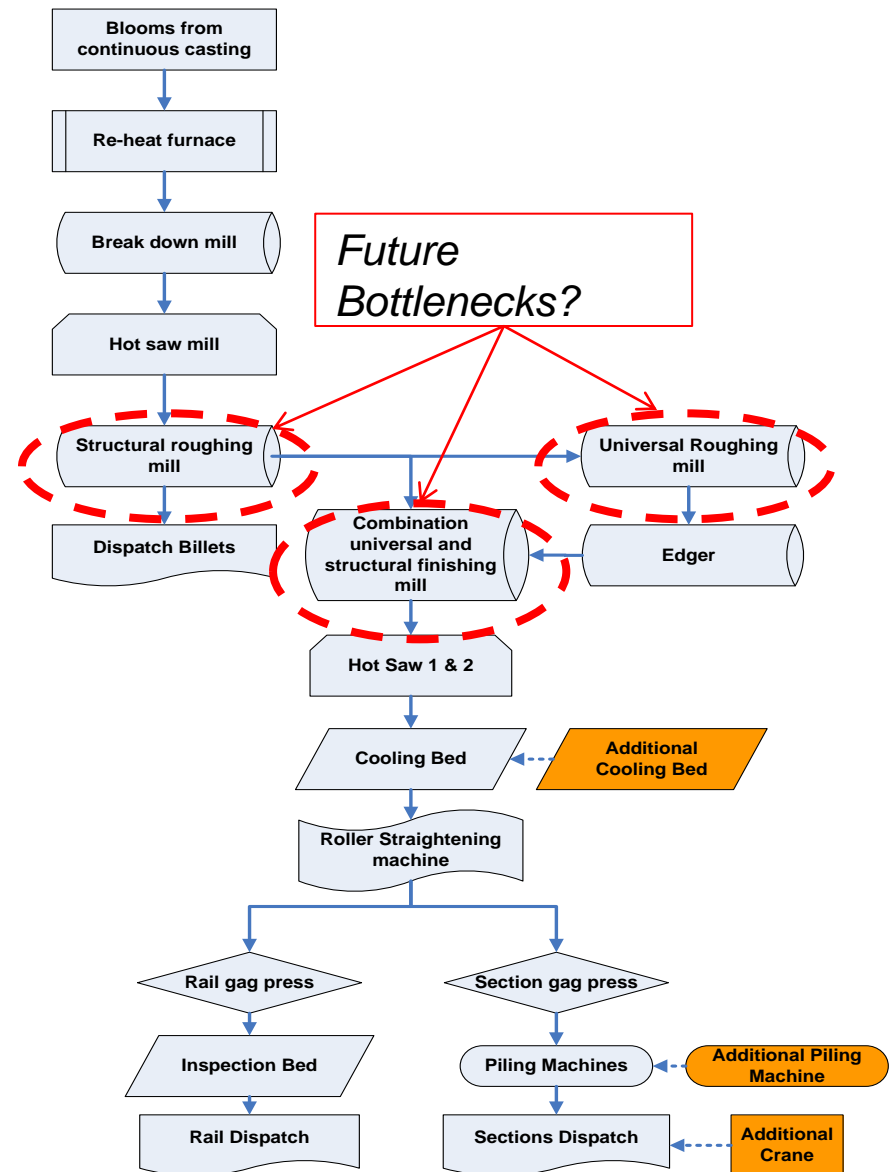
SL scrap consumption
0.1 t/t -> 0 t/t

BOF scrap consumption
0.15 t/t -> 0.2 t/t

Structural Mill

Long-Term Configuration
Capacity: 330 to 420 ktpa

- The objective is to increase the plant capacity to 420 ktpa, by eliminating the designed bottlenecks of the plant.
- In order to achieve this, investment will be needed to increase the capacity of the following equipment:
 - one additional primary cooling bed
 - one additional automatic piling machine
 - one additional crane in the section bays





Thanks!