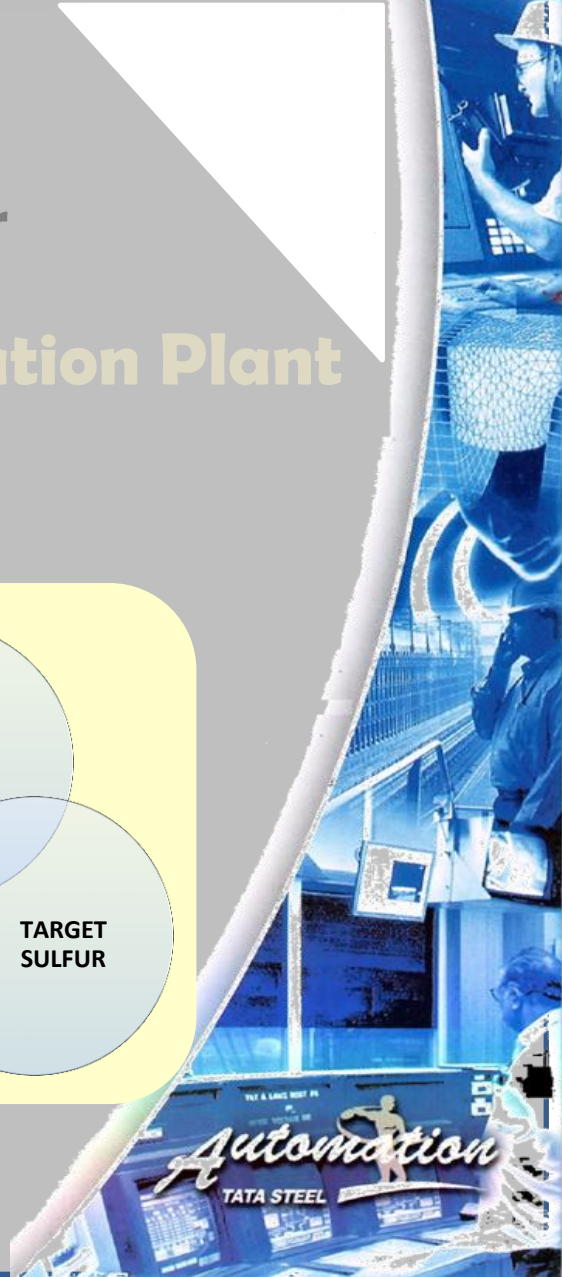
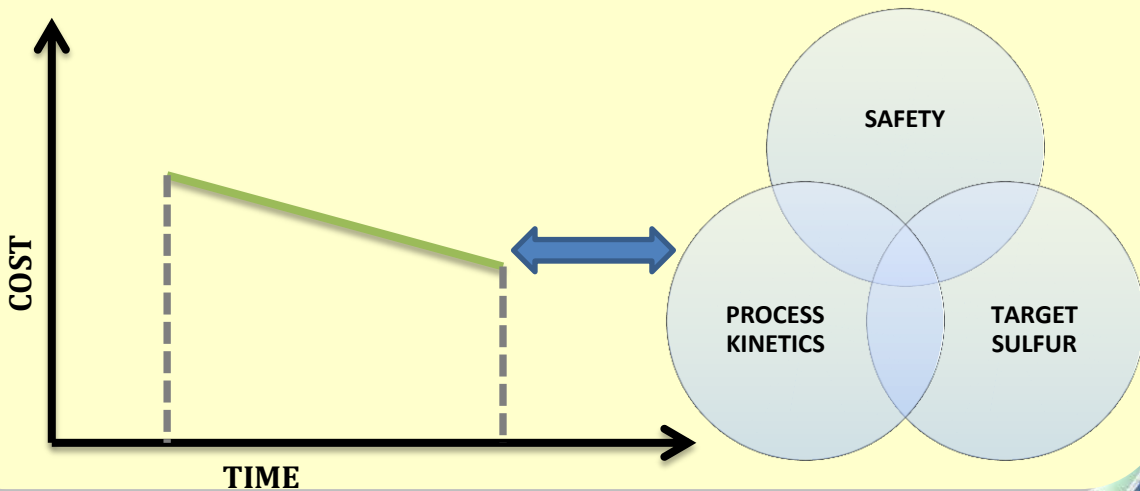


Maximising Quality & Cost in Steelmaking

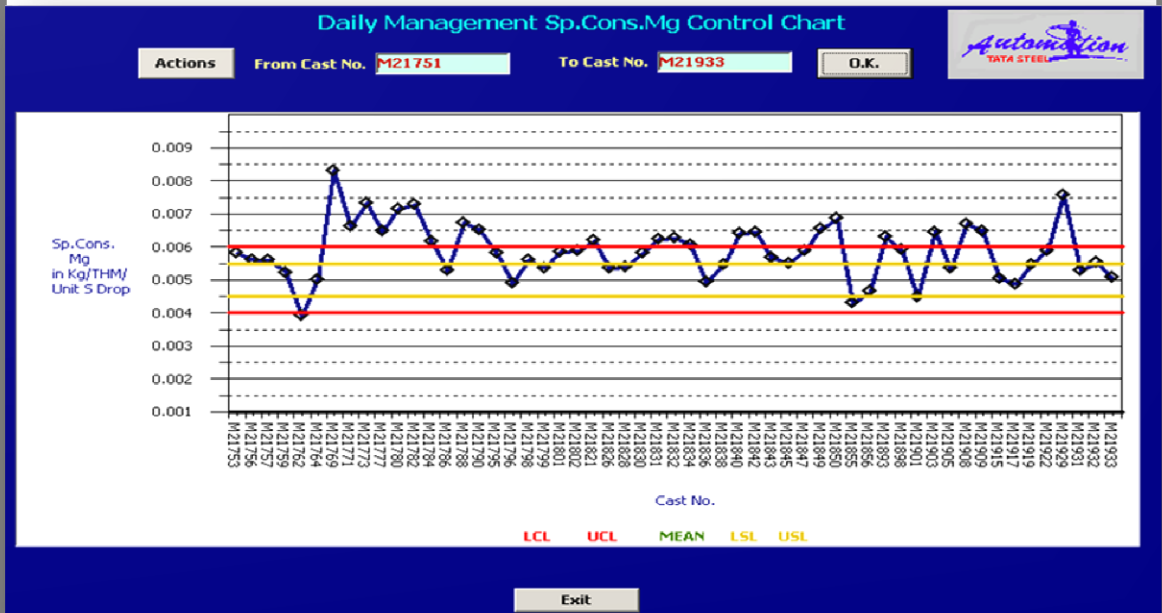
A Complete **Process Control** Solution for

Desulphurisation Plant



OBJECTIVES

- **Quality Improvement** ⇒ **Target Sulphur levels**
- **Cost Optimisation** ⇒ **Injection material amount**
- **Time Optimisation** ⇒ **Injection schedule**



Vessel Level II Automation System
Hot Metal DeSulphurization

Heat ID

Cast No. V26278

Ch. Ladle No. 8 HM Weight 153 Heat Sts. PRC_BLOW_START

Aim Desulphurization S : 0.0080 DS Station No. 3

DS Treatment 1					DS Treatment 2				
CaC2	<input type="text" value="314"/>								
Mg	<input type="text" value="46"/>								
Flow DP_1	<input type="text"/>								
Flow DP_2	<input type="text"/>								
Start	<input type="text" value="3/20/2012 3:47:54 PM"/>								
End	<input type="text" value="3/20/2012 4:11:53 PM"/>								
Temp Bef Trt.	<input type="text" value="1407"/>								
Temp AA Trt.	<input type="text" value="1385"/>								

	C	Si	Mn	P	S	C	Si	Mn	P	S
Before Trt.	4.64	0.74	0.0410	0.17	0.04	0.00	0.00	0.00	0.00	0.00
After Trt.	4.56	0.70	0.0410	0.18	0.0050	0.00	0.00	0.00	0.00	0.00

FUNCTIONALITY

- **Online adaptive models for calculating injection material requirements based on**

- *Hot metal Sulphur*
- *Aim Sulphur*
- *Mass balance of desulphurization reactions*
- *Thermodynamics of reactions*

- **Easy interfacing with other automation systems of the plant**

- **Can handle both mono-injection & co-injection**

Vessel Level II Automation System
DS Display Screen

TATA ROUTE > PLANNING > TORPEDO > DS > VESSEL > OLP > SCRAP > ADMIN > DM >

Select from Date Cal Select To Date Cal Display To Excel

Select DS.No.

	Heat	Chld	DS	Tot DS HM Wt.	Chrg HM Wt.	CaC2	Mg	Trt Start Time	Trt End Time	HM Temp	Out Temp	Alm S	HM S	DS S	HM C
Select	6281	14	3	147		313	46	20-03 16:41	20-03 17:12	1328	1295	0.008	0.042		4.550
Select	6280	15	1	152		364	53	20-03 16:27	20-03 16:52	1383	1358	0.008	0.054	0.004	4.520
Select	6279	11	2	168	167.80	380	44	20-03 16:15	20-03 16:39	1365	1313	0.008	0.048	0.003	4.560
Select	6278	8	3	153	150.90	314	46	20-03 15:47	20-03 16:11	1407	1385	0.008	0.040	0.005	4.640
Select	6277	14	1	145	155.80	286	41	20-03 15:42	20-03 16:02	1337	1307	0.008	0.033	0.004	4.350
Select	6276	15	2	158	159.20	288	43	20-03 15:22	20-03 15:38	1366	1358	0.008	0.036	0.007	4.480
Select	6275	8	3	152	163.40	337	47	20-03 14:44	20-03 14:44	1430	999	0.008	0.044		4.650
Select	6274	15	2	144	159.20	303	44	20-03 13:43	20-03 14:05		1354	0.008	0.036	0.008	4.560
Select	6273	8	3	151	155	381	56	20-03 13:10	20-03 13:36	1371	1327	0.008	0.050	0.004	4.500
Select	6272	15		156	152					1326			0.050	0.007	4.450
Select	6271	8		163	156					1350			0.055	0.000	4.550
Select	6270	15	2	0	162.20	274	40	20-03 11:53	20-03 12:08	1352	1341	0.010	0.040	0.008	4.480
Select	6269	8	2	162	162.60	392	50	20-03 11:02	20-03 11:25	1370	1360	0.010	0.061	0.007	4.510
Select	6268	14	1	154	149	358	51	20-03 10:31	20-03 11:01	1396	1371	0.010	0.060	0.016	4.480
Select	6267	15	2	156	166.70	318	46	20-03 10:18	20-03 10:37	1426	1409	0.010	0.050	0.010	4.500
Select	6266	8	1	153	161.30	338	49	20-03 09:34	20-03 09:56	1412	1422	0.010	0.055	0.008	4.600
Select	6265	14	2	167	163.10	324	47	20-03 09:11	20-03 09:32	1409	1391	0.010	0.051	0.015	4.590

Refresh



BENEFITS

- **Achievement of Target Sulphur levels critical to steel quality**
- **Optimised cost through calculated injection material addition based on target & actual Sulphur**
- **Time Optimisation through auto preparation of injection schedule**
- **Online display of process data & trends**
- **Customised reports**
- **User friendly GUIs**



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