

INDUSTRY 4.0

It matters for Electroplating Facilities - Why ?



The better the question. The better the answer.
The better the world works.

- Four Distinct Examples
 - Heat Treatment Furnaces
 - **Electroplating Industry**
 - Electric Arc Furnaces
 - Vegetable Oil Refining

- Started with 2009 with the first plant to be automated
- Today (25/04/2018) - 27 facilities have been automated
- First facility had 19 tanks, 1 transporter, 4 rectifiers, 4 auto dosing pumps etc. and was a single process facility.
- The latest one has 95 tanks, 13 transporters, 36 rectifiers, 42 auto dosing pumps etc. and can process 7 different type of plating.
- Layout optimized as per our algorithm

- Control of Transporters, Rectifiers, Temperatures, Auto Dosing, Chemical Maintenance in all the tanks applicable every second to ensure perfect control of plating parameters including using calculated values such as amp hrs.

- ✓ PLCs : Siemens or Omron
- ✓ Various Models of Controllers from Delta, Eurotherm,
- ✓ Various models of dosing pumps, thermocouples, rectifiers.

- Starting in 2009 with a silver plating line in BHEL, we have automated 27 tanks.
- We have reduced the cycle time in many cases by more than 100% resulting in a productivity increase of more than 200% in many cases.
- The quality of the finished products leaves nothing to be desired and is of top most **export** quality.
- The range of plating spans silver plating, aircraft parts, plating on a variety of base materials such as brass, plastic, aluminum, zinc etc.
- The plating could be nickel, chrome, cadmium, copper etc.

- Optimized Plant Design
- Over 25 types of Reports
- End Customer involved in design of reports
- Graphical information : present and past
- Continuous Support

- Data collected for nearly 6 years
- A new algorithm developed : see publication
“A Methodology for Facility Design and
Optimal Loading of an Electroplating Plant,
Markus Marschall, B R Kiran, S R
Chandrasekhar and Prabhakar Sastri
Transactions of the IMF. 2015; 93(1), pp 4-7
“

*a highly acclaimed paper meriting mention
by the Chief Editor*

Link

*Methodology for Facility Design and Optimal
Loading of an Electroplating Plant.pdf*

- Reduction in Cycle Time
- Increase in Productivity
- Improvement of Quality

- See attached document
- [Savings thru Automation Electroplating.pdf](#)

Parameter	%age Increase	%age Decrease	Current Value, Pieces/year	Value Per Piece, Rs	Total Benefit, Rs
Cycle Time		100 %	15,00,000	50	7,50,00,000
Increased Production	250%		15,00,000	50	7,50,00,000
Quality Loss Reduction		20 %	15,00,000	50	1,50,00,000
Customer Satisfaction	Export Quality 100%				Please Add
Total Annual Benefit					16,50,00,000 i.e. Rs 16.5

Dr Prabhakar Sastri

Director

Isa Technologies Pvt. Ltd.

Pragathi Business District

Udupi - Manipal Highway

Manipal 576104

Mobile 9342533561

E-mail : ps@istech.in