BAIPS

Automation and Industrial IT

ABOUT US

TACKLING CUSTOMER CHALLENGES RATHER THAN SIMPLY AUTOMATING EQUIPMENT!

Automation, among other Industrial IT disciplines, orchestrates the harmony between all production assets in order to unleash the potential of your plant.

At BAIPS, we ensure that your projects have the right level of automation with our experience from across various industries and countries, from the conceptual design until commissioning and handover. As senior member of the ISA organization, we follow all ISA standards and GMP related regulations to deploy Industrial IT technologies.

BAIPS is a part of Group-IPS, a global project management and engineering company helping organizations around the world to build more productive and sustainable facilities.

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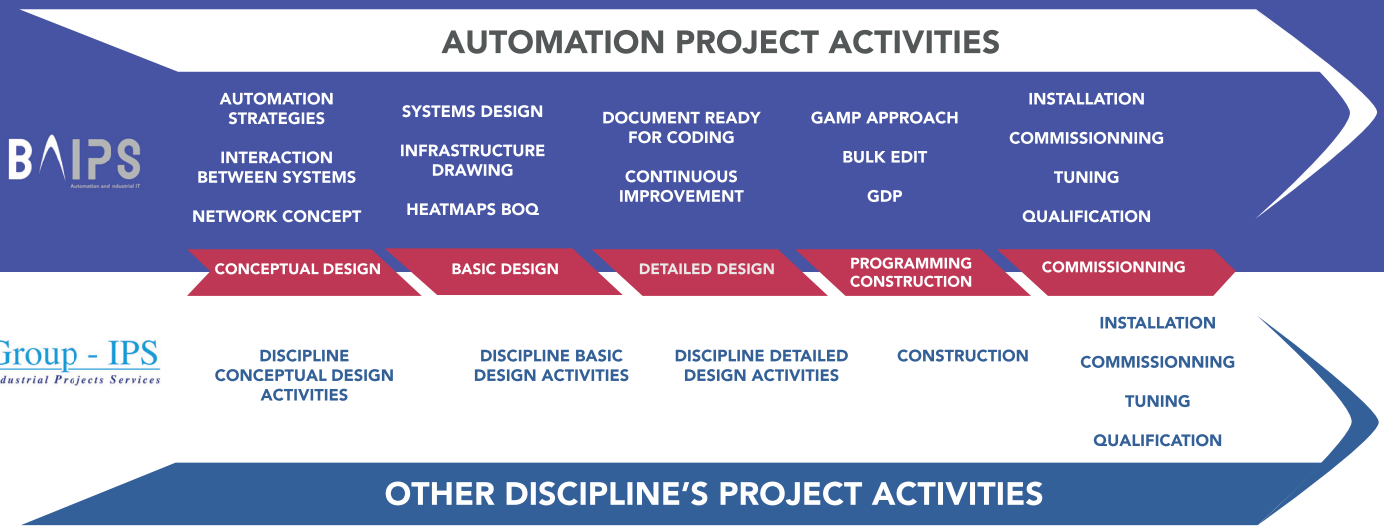
CONCEPTUAL DESIGN TO COMMISSIONING

BEYOND AUTOMATION IF REQUIRED!

At BAIPS we ensure you will have the right level of automation from day one of the project.

Therefore, BAIPS is involved from the conceptual design stage to commissioning, handover and qualification. We rely on best standards and regulations such as the GAMP5 methodology, 21 CFR, ISA 88, and other global standards.

As BAIPS can take care of engineering and integration activities, precious time and money are saved as detailed design and functional documents are 'coding ready' and can be seamlessly used by BAIPS programmers or third party integrators managed by BAIPS.



As part of an international group, we can mobilize experienced resources from Group-IPS to manage all the disciplines that your project may require (PM, Process, Mechanics, Electricity, permitting, structural, civil, instrumentation, safety, HVAC, piping, utilities, procurement, ...).

Group-IPS is a global company acting across various industries providing project management and engineering services. We help our customers to move confidently into the future with new factories, new processes and even new products as well.

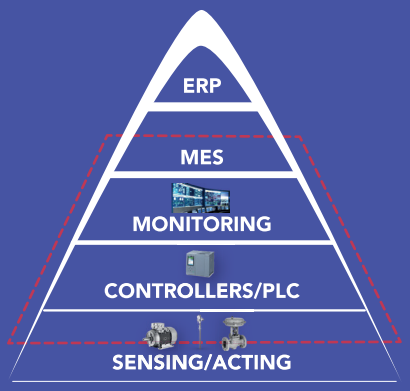
WHICH TECHNOLOGIES TO DEPLOY?

Technology suppliers make a lot of software and hardware solutions available to meet various types of applications. A choice may become difficult as feature differences are not always easy to identify. At the same time, the consequences of a wrong choice can be dramatic.

Potential areas of unintended constraints are numerous: application size, scalability, safety, process control optimization, motion control, robotics, vision systems, execution speed, historization, alarm management, recipe management, integration, insights, reporting capability, conformity, high maintenance and ownership cost…

As engineering office and system integrator, BAIPS provides independent analysis and advice for the most suited Technologies for your plant, according to global standards and regulations!

AREA'S WE ARE MOST PRESENT :



A SAMPLE OF OUR MOST USED TECHNOLOGIES :

PROGRAMMING LANGUAGE

SIEMENS TIA Portal · SIEMENS SIMATIC · SIMATIC PCS 7 · DELTAV · ABB · KUKA · RA

IT DEVELOPEMENT & DESIGN

SQL

IA FRAMEWORK

INFRASTRUCTURE SIMULATION WITH GNS3

PROGRAMMING LANGUAGE

C++ · python · Java

WITH DESIGN WITH EKAHAU

INFRASTRUCTURE AUTOMATION

A SAMPLE OF STANDARDS & REGULATIONS WE APPLY :

- ISA 88 – Batch
- ISA 106 – Continuous
- ISA 101 – HMI
- ISA 99 – Cybersecurity
- ISA 5.1 – Instrum. Symbols and Ident.

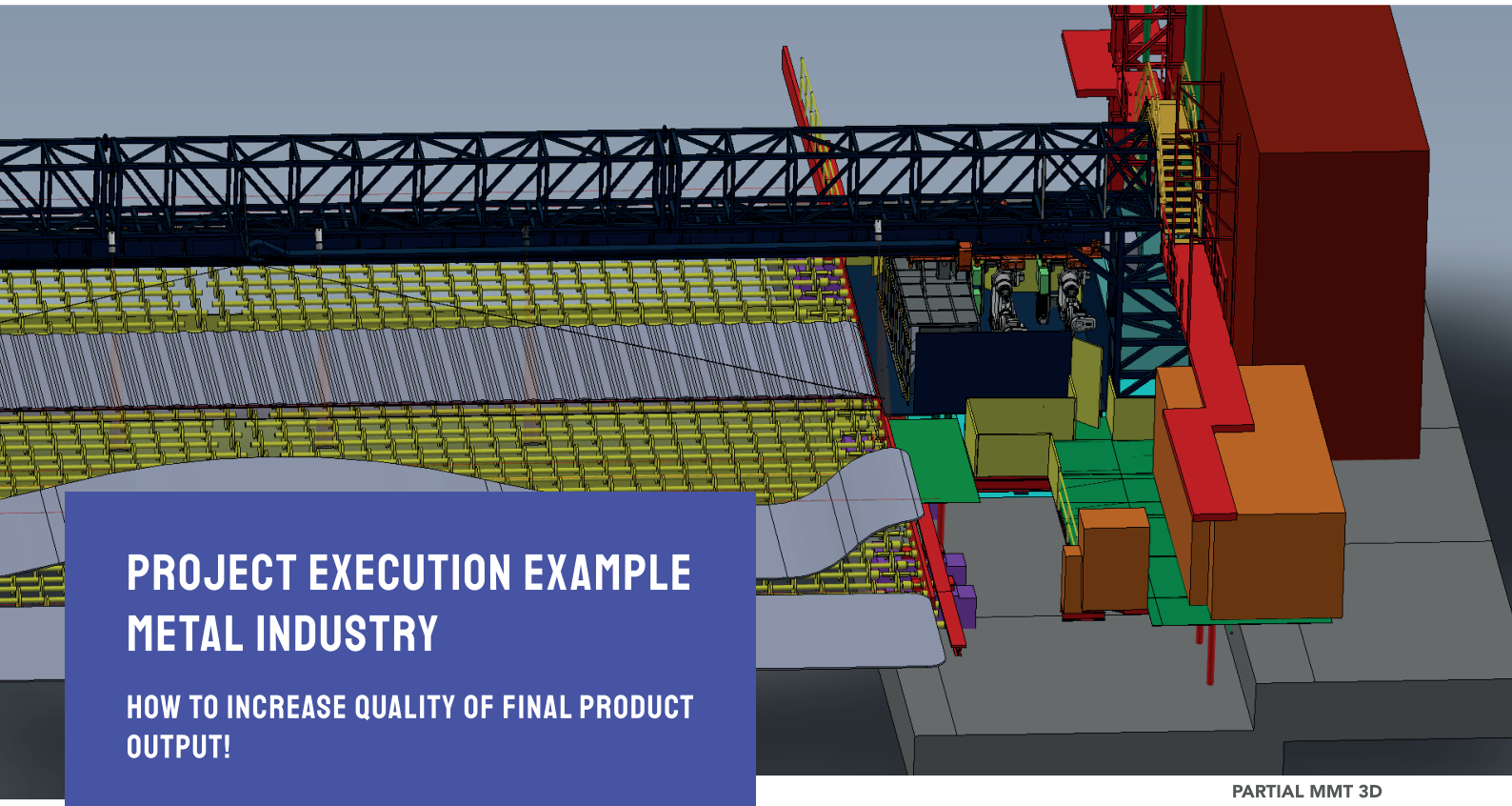
International Society of Automation* — ISA

- 21 CFR Part 11/ Eudralex Vol. 4 Annex 11
- GAMP 5
- Computer System Validation

Good Manufacturing Practice — Good Manufacturing Practice GMP

- UML
- SysML
- GRAFCET

Modeling language



PARTIAL MMT 3D

PROJECT EXECUTION EXAMPLE METAL INDUSTRY

HOW TO INCREASE QUALITY OF FINAL PRODUCT OUTPUT!

A large steel plant was confronted with a very high level of plate defects and inaccurate sheet steel cutting operations.

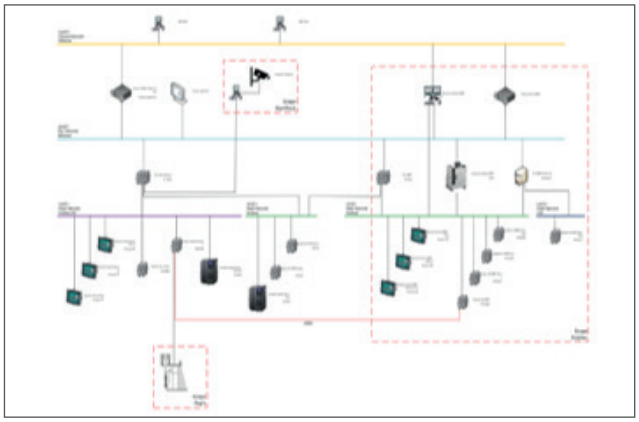
It has been decided to revamp the manual operations done on the plate through the cooling bed.

BAIPS was requested to coordinate several subcontractors and client technical services and users in order to completely revamp the MMT (Measuring and Marking Table).

The plates can go from 3 to 5 m wide and from 3 to 30 m long. Several technologies like PLC, robots, motion control, 3D vision, analysis and marking systems must be deployed and integrated to reach client's goals, e.g.: 1 vision system made by cameras, laser for better illumination and an AI algorithm to analyze all data and provide the shape of the plate for the biggest final product as ordered. The interface between the MMT and the customer to determine the final product is implemented via the existing MES, which is managed by the client.

On top of a dramatic level of plate defects decrease, BAIPS has developed a methodology to combine the commissioning activities with current manual operations to minimize and even eliminate any down-time during commissioning.

The involved resources assigned to the project consisted of a Project Manager and a Sr Automation engineer acting as Technical Lead. The complete study from concept to basic design was planned to be done in only 120 workdays.



PROJECT EXECUTION EXAMPLE CHEMICAL INDUSTRY

HOW TO IMPROVE RECIPE MANAGEMENT AND OPERATIONEL RESULTS

The client experienced challenges and pressures because of poor production throughput compared to the objectives set by the mother company.

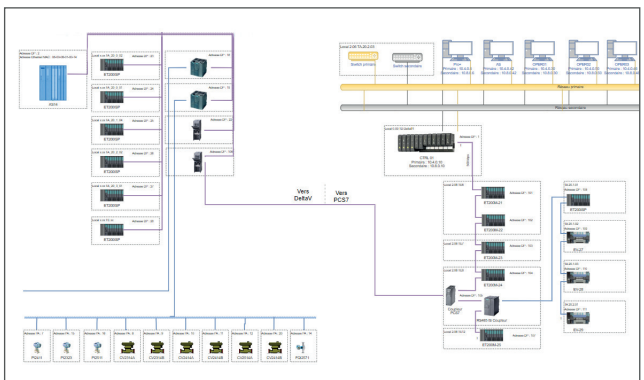
BAIPS was requested to analyze client operations and IT infrastructure and to develop cost effective solutions to meet client challenges.

During the conceptual study, our team demonstrated the lack of operation efficiency was due to an obsolete and unoptimized recipe control system.

Based on installed technologies (e.g. PCS7 and DeltaV) BAIPS has designed and implemented a new Batch solution, which meets rigorous GAMP methodology and ISA88 standards.

Thanks to our careful planning and execution, the project was completed on schedule and provided our customer with a well-documented As-Built folder. The result was a modern and efficient chemical production plant based on an optimized Batch campaign application, dramatically reducing, material usage, down and set-up time.

Our structured approach applied by our experienced senior automation engineers, the complete study was done in only 420 workdays, from concept to detailed design.



AUTOMATION AND IT INFRA

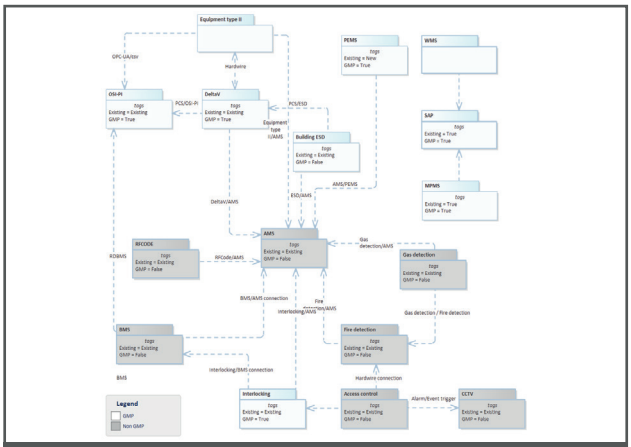
PROJECT EXECUTION EXAMPLE PHARMACEUTICAL INDUSTRY

HOW TO REMOVE CLIENT'S STRESS

The project of a pharmaceutical company was to adapt an existing building to include new R&D facilities. Time to market was one of the most important customer challenges!

In the conceptual phase, we focused on the description of each existing system, possible new additions, and their interconnection (BPCS, OSI-PI, safety system,…). That lead us to define and verify the requirements for every system and their operations.

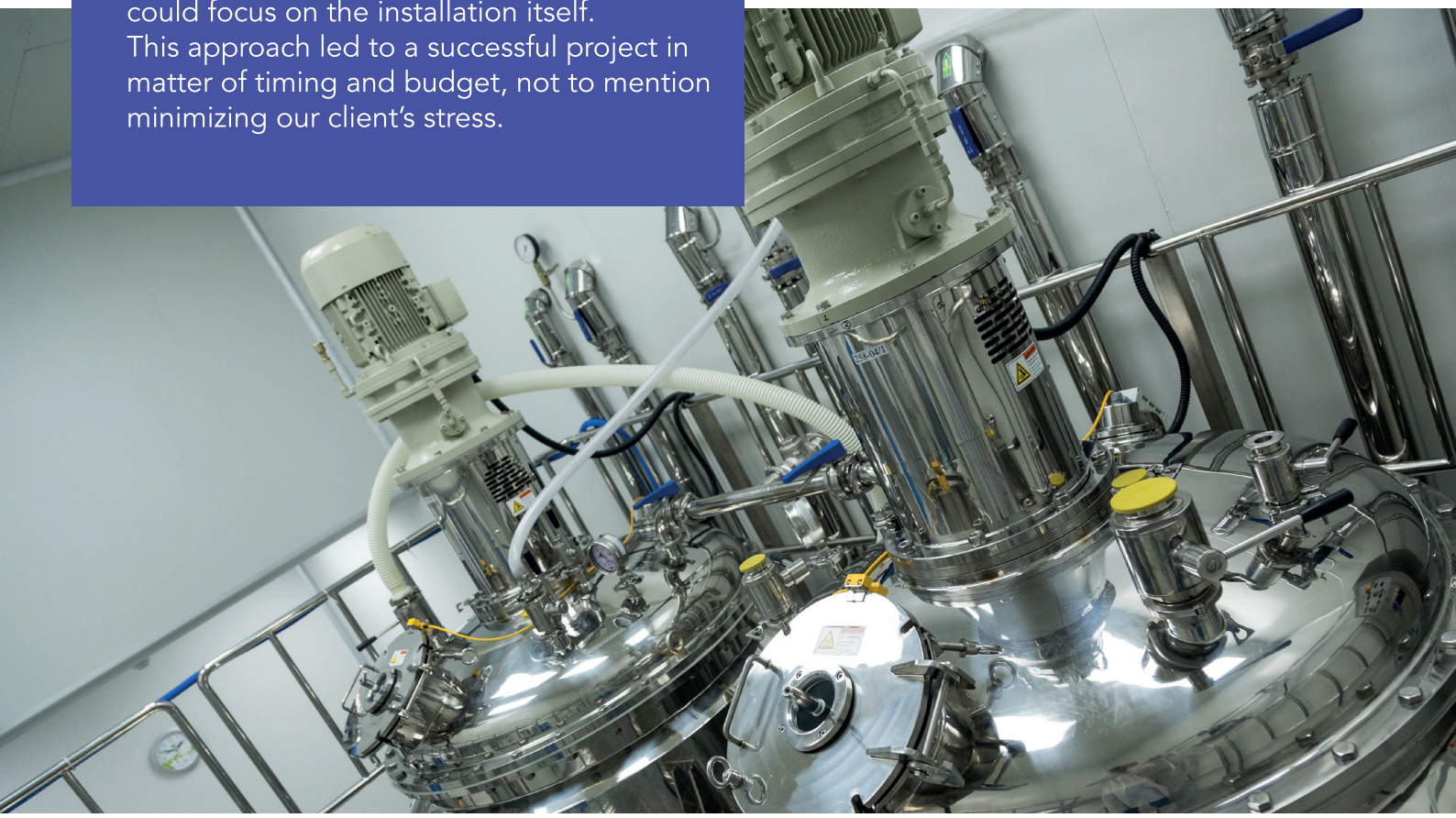
Once the software infrastructure was created, we focused on each system individually – network, philosophy, equipment, etc. Later in the project, in detailed design, no additional requests, errors, or mistakes were raised, and we could focus on the installation itself.
This approach led to a successful project in matter of timing and budget, not to mention minimizing our client's stress.



SYSTEMS DIAGREM AND DATA FLOW

The involved resources assigned to this large project consisted of 3 experienced people, acting as automation project lead and 2 Sr automation engineers.

Thanks to our structured methodology, the complete study of not less than 16 systems from concept to detailed design was done as planed, in only 320 workdays.



PROJECT PREPARATION EXAMPLE FOOD & BEVERAGE INDUSTRY

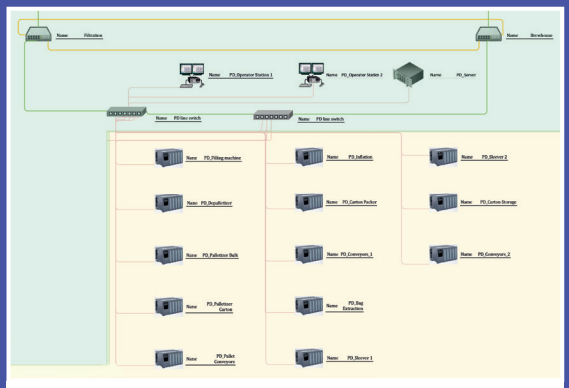
HOW TO INCREASE PRODUCTION CAPACITY WITHOUT SHUTDOWN !

A multinational food and beverage plant experienced flawed and weak production and struggled to meet their market demand.

Consequently, it has been decided to double the production capacity and to add a new 'perfect draft' packaging line.

BAIPS was requested to analyze client operations and systems infrastructure and to develop cost effective solutions to meet client challenges.

During conceptual study, our team identified 12 sub-projects in parallel. E.g. new perfect draft facility, relocation of the datacenter, new filtration area, new brewery, new packaging line, revamping of utilities,…), controlling different plant areas and equipment that had to be brought together to create a seamless and coordinated solution. At the heart of the project is the relocation of the core data center and effectively the re-conceptualization of the entire production plant. Our experts carefully designed the network to ensure the production continuity was maintained during the project.



PART OF THE AUTOMATION INFRASTRUCTURE

Thanks to our planning and execution, the word 'shutdown' could be removed from the project planning. Increased throughput due to improved operations have already been demonstrated with only some of the subsystems integrated.

The involved resources assigned to the project consisted a Sr automation engineer and automation/IT engineer. The complete study from concept to basic design was done in only 50 workdays.

YOUR IDEAL PARTNER

WE CREATE VALUE THROUGH IT AND AUTOMATION

Consider Industrial IT early in your project to improve operability after the project!

Automation is often seen as separate software and hardware controlling individual machines.

If there is a requirement for additional functions, like e.g., automated safety, robotic control or manufacturing data management, then a separate safety PLC, robot, or MES/Historian package is added.

Thereby different technologies are added to the existing infrastructure without global integration and overall process in mind. This leads to misalignments between systems resulting in degraded plant operability and higher maintenance and ownership cost.

To unleash your plant capacity, BAIPS considers automation early in the project, already in the conceptual design phase. We structurally collect information from all impacted and involved departments e.g. Production for sizing and functions; Maintenance for asset monitoring; Management for reporting, EHS for safety functions etc… By addressing all these questions, we design automation which adds real value across your company from operator's trough production and plant managers to headquarters.

PRESENT OR FUTURE NEED ?

CONTACT US NOW!

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