INEOS
THE WORD FOR CHEMICALS

Commissioning - Plants & Projects

“Do it Right”

INEOS Technologies

Not to be mixed up with a well known sporting goods tag line of: -

JUST DO IT.

Contents

- INEOS Technologies Ltd – Overview
- The view of the Project Process
- Delivering the best outcome
- What help is available
- Key messages

INEOS Technologies Ltd – A complete solution

INEOS GROUP

TURNOVER

$54 BILLION

EMPLOYEES

17,000

PRODUCTION

HERITAGE

AMOCO, BASF, BAYER, BOREALIS, BP, DEGUSSA, DOW, ENICHEM, ERDOLCHEMIE, HOECHST, ICI, INNOVENE, LANXESS, MONSANTO,NORSK HYDRO, SOLVAY

SITES

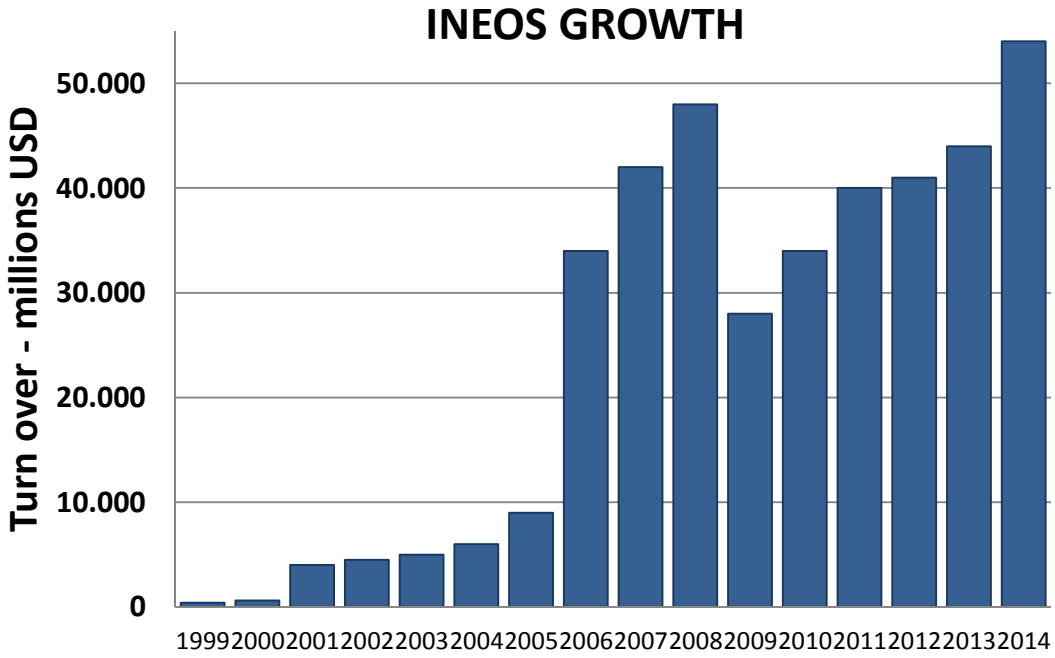
65 SITES IN 16 COUNTRIES

- INEOS Technologies Ltd as a business within the INEOS Group is a leading provider of Chlor-Alkali Technology and of licensed technology into the Vinyls chain.
- Not only a supplier but also as an operator, we understand what our customers require for long term successful operation
- Working closely with our customers we are responsive and flexible to their needs to help the right decisions to be made

INEOS Technologies Ltd – A complete solution

- With over 50 projects commissioned around the globe over the last 10 years, the ITL commissioning team know what it takes to make your projects successful.

- The size of a project is not a factor when ensuring the necessary processes are followed. It's your project so it's important to 'do it right', no matter what size it is !!



At the start of a project there is:-

Excitement

Belief

Energy

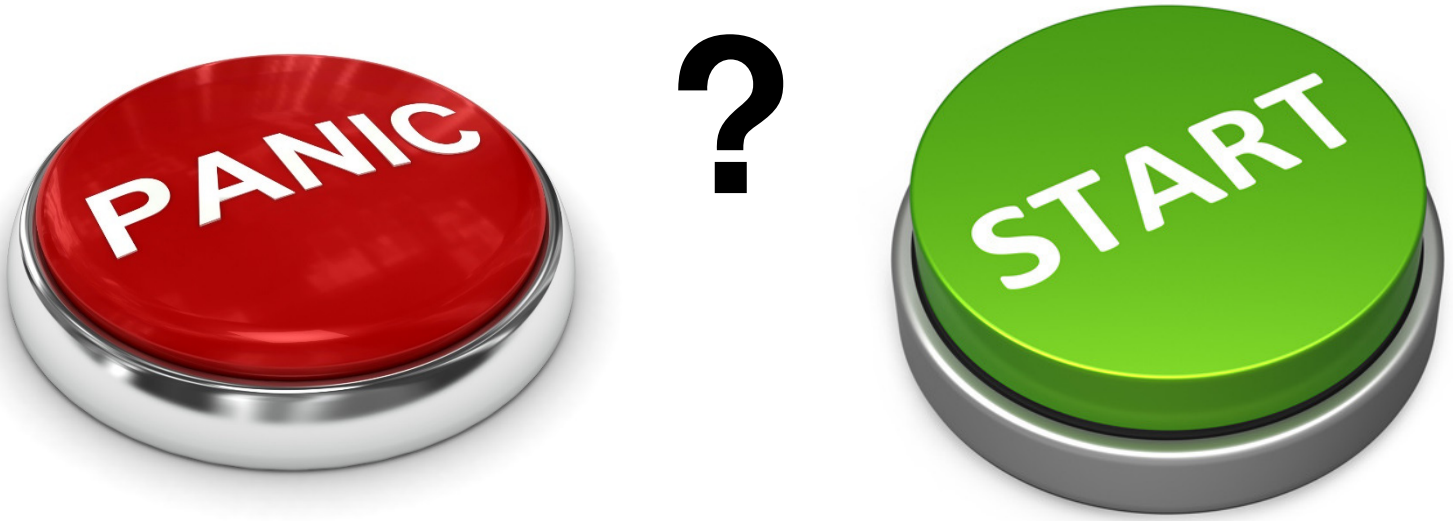
Optimism

Confidence

Based on this high level of positive thinking, the image of the plant start up is one of celebration:-

Start button or Panic button ??

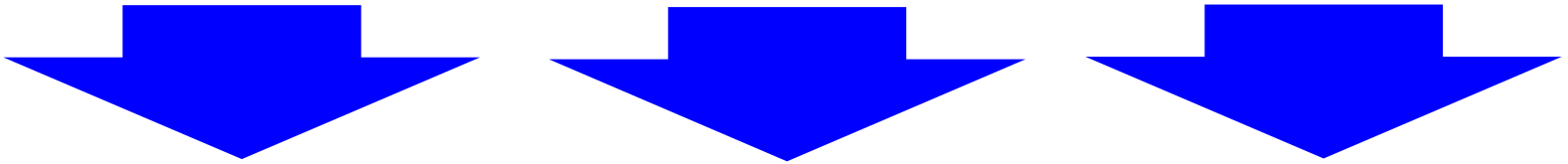
Too often though the reality of pressing the start button can be one of pure desperation:-



In these circumstances even the most disciplined can find it difficult to maintain their safety & engineering standards. This is what we must strive to avoid

The Project Starts

What happens next?



You have | You have not | You think you have

- An effective SHE strategy for the project
- Solid financial support
- Customers for your products
- Selected the right vendors
- Recruited personnel with the right qualities and skills
- A project plan that is accurate and deliverable
- Contingency

If **'You have'** all of these aspects in place and established then:-

- There is a high likelihood that the project will be delivered safely, on time, in full and within budget expectations.
- You will be capable of operating the Project Plant at design capacities
- You will satisfy the needs of your customers with the availability and quality of your products.
- You should be making a profit !!

If **'You don't have'** all of these aspects in place and established then:-

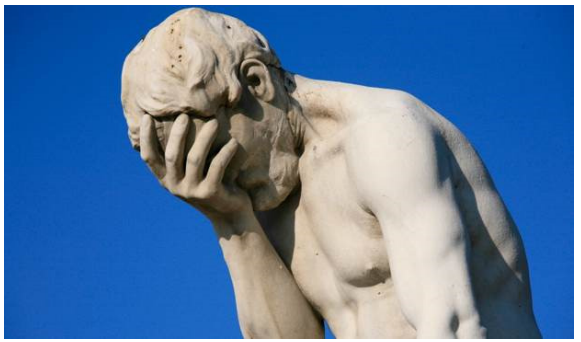
- There is a high likelihood that the project will fail or at best will deliver significantly below your original expectations.
- The lower capital sum you have invested, changes from a saving to a potential total loss !!

If **‘You only think you have’** all of these aspects in place and established then:-

- This can be the most dangerous of all conditions. At least if you know you haven’t taken an action you can anticipate the outcome.
- Key aspects of the project that were expected to deliver a desired outcome but fail to, are costly and time consuming.

If you fall into the latter two categories then at the end of the project the following is likely to apply to varying degrees: -

- I have not been able to retain all of my customers
- My Plant capacity is under-utilised
- My Plant is unreliable and does not operate as per the design intent
- I have lost most of my best personnel
- I have a poor relationship with the local/government authorities
- I am involved in costly legal proceedings



“I wish I had never started”

So, what can you do to promote the delivery of a positive outcome?

Contractor & Supplier Selection

When considering your vendors and primary engineering contractors be cautious of the "price trap".

If an offered option is considerably cheaper than all other options, then it is highly likely that it is different to what you had in mind.

?

Contractor & Supplier Selection (Cont.)

Do you know the track record of your preferred supplier?

What reputation do they have in the industry?

What reference opportunities are there?

What is the scope of the Project?

- Ask for a detailed scope of supply to avoid multiple, costly, project change orders being submitted later.
- Support this process by having a clear view as to what you want from the project
- If a change of scope is identified, how you manage it is critical.

Personnel Recruitment

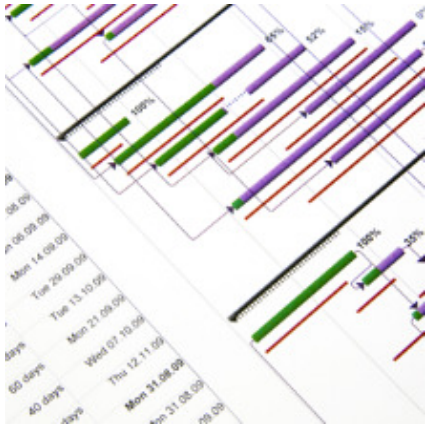
- Avoid recruitment by desperation !!
- Start the process early and have realistic salary payment expectations to retain personnel
- Having a strong ‘Team’ is more powerful than a few good individuals in times of difficulty.

Financial Support

- Ensure your financial backers understand the nature of the business they are investing in.
- This avoids big surprises if there are problems and the risk of losing their support at critical moments.
- Is your financial contingency real or is there a risk of it being an empty promise?

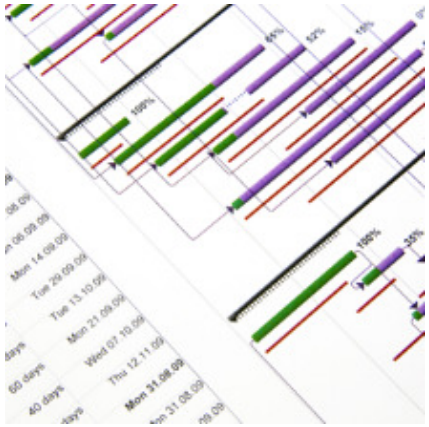
The Project Plan

- Is it a real working document or a tool designed to just keep you happy by your primary engineering contractor?
- Is it owned and managed continuously by someone competent and knowledgeable in the role?
- Is it viewed as the primary tool for the management of the project?



The Project Plan (Cont.)

- Can it be interrogated to the necessary level of detail or does it stop at high level statements?
- Is everyone working to the Project Plan and do they understand their role in its effective delivery?
- Is an updated version of the Project Plan always readily available upon request? If not, why not?



What other help is available?

INEOS Technologies Ltd

- A provider of licensed Chlor-Alkali production hardware, for both Monopolar (FM™1500) and Bi-polar (BICHLOR™) duties, as well as 3rd party technology refurbishment capability
- Able to draw upon extensive experience, both as designers and operators of Chlor-Alkali plant
- Able to provide engineering services to clients throughout the project life-cycle.
- These services have been used by many clients to help ensure that the right plant is efficiently constructed and well operated, to ensure good long term performance.

INEOS Technologies Ltd - Areas of Expertise

Examples of Pre-project Activities

- Debottlenecking Studies
- Feasibility Studies
- Process Design Development
- Project Development

INEOS Technologies Ltd - Areas of Expertise

Examples of Basic Engineering Services

- Raw Materials Analysis
- Process Design Packages
- Basic Engineering Design Review
- HAZOP Studies

INEOS Technologies Ltd - Areas of Expertise

Examples of Detailed Design Services

- Project Layout Review
- Pressure Control System Review
- Electrical Systems Review
- Control Logic & Interlock Review

INEOS Technologies Ltd - Areas of Expertise

Project Management Services

- Project Alignment
- Value Analysis Studies

INEOS Technologies Ltd - Areas of Expertise

Commissioning Activities

- SHE Management
- Overall Plant Commissioning Services
- Control Loop Commissioning
- Operating Structure

Key Messages

- The Project Process need not be a painful experience if attention is given to the details that support the overall plan, before you start.
- Have a robust Project Plan with a realistic start-up date. This is rarely aligned to the company owners birthday, etc. This type of strategy if allowed to be applied, is doomed to failure.
- Help is available from experienced Chlor-Alkali technology operators and suppliers.
- Be realistic. This is an event to be managed by the head not the heart !

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Thank you for your attention

Andrew Oatley
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Commissioning
INEOS Technologies Ltd

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