

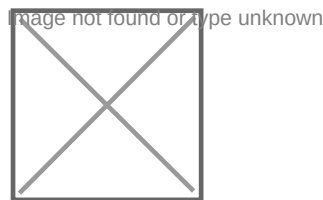
IbD- Software Platform for Process Intensification

Project:

Intensified by Design® for the intensification of processes involving solids handling

The IbD Project has delivered the EU process industry with an affordable and comprehensive devices-and-processes design-platform endeavoured to facilitate process intensification (PI), which specially targets -but is not limited to- solid materials processing. Five PI industry case studies have been implemented in mining, ceramics, pharmaceutical, non-ferrous metals and chemical processes using the IbD approach and to validate the IbD methodologies, tools, PI modules, control and fouling remediation strategies and the ICT Platform itself for the industrial implementation of PI in processes involving solids. The Platform includes design modules for the commonest intensified reactors- Rotating fluidized beds, micro-structured reactor and spinning disk, among others, as well as a generic Module Builder -equipped with a set of both proprietary and third-parties design tools- for designs carried out on the basis of radically novel ideas. The IbD Platform output is basically a data set that comprises the intensified reactor design -ready to be built or assembled-, an optimised whole process design including the upstream/downstream intensified unit operations and their solids handling capability, as well as cleaning methods, etc. and the expected economic and environmental quantitative impacts.

Project website: <http://ibd-project.eu/> This project has received funding from the European Union's Horizon 2020 research and Innovation programme under grant agreement No **680565**



Sector:

Ceramics

found or type unknown

Chemicals

found or type unknown

Engineering

found or type unknown

Minerals

 found or type unknown

Non-ferrous metals

 Summary:

IbD has created a holistic platform for facilitating process intensification in processes in which solids are an intrinsic part, the cornerstone of which will be an intensified-by-design (IbD). The IbD approach is hinged on the use of robust data about a process to 'redesign', modify, adapt and alter that process in a continuous, intensified system, and will be the new paradigm in the intensification of processes based on statistical, analytical and risk management methodologies in the design, development and processing of high quality safe and tailored chemicals, pharmaceuticals, minerals, ceramics, etc. under intensified processes.

Theme:

[Process Intensification - SPIRE05-2015](#)

Keywords:

process intensification, solids handling, process design, digital platform

Type:

[Software](#)

Rights:

Open Access

Resources

Upload Files:



[d5.4-ibdr-platform-freemium-version.pdf](#)

Link:

[IbD Digital Platform](#)

[Promotional Video](#)

[Tutorial Video of the Platform](#)

The IbD Platform is a software tool for Process Intensification (PI) devices-and-processes design, primarily oriented to systems involving solids handling but open to integrate other PI solutions in the midterm. It is the major outcome of the 'Intensified by Design' project, whereby a consortium of research and industrial partners have participated to establish a new paradigm for PI design methods in industrial processes in which solids handling is considered a key element in the production line.

In consequence, the IbD Platform is considered a unique 'one-stop-shop' tool in the process engineering field for integrating state-of-the art knowledge in process intensification while establishing itself as a meeting point for the stakeholders both in the PI research and industry sectors. All these features have been designed in order to accomplish a substantial boost in the market uptake of PI in key sectors such as mining, pharmaceuticals, non-ferrous metals and ceramics processing industries, which represent important segments of the European process industry, and also being key production sectors widely represented in the A.SPIRE Association.

The IbD Platform is a comprehensive working environment that assists Process Intensification (PI) designers along each stage of the PI journey by providing access to the latest and most relevant PI tools and methodologies in one unique user interface (UI).

This platform provides a complete set of easy to navigate tools for chemical-engineering calculations and simulations, the cornerstone of which is the 'intensified-by-design' approach, as well as offering the ability to seamlessly import third-party resources and formats. The IbD platform is a unique combination of:

- Computer Aided Innovation tool for chemical process design (based on TRIZ and KBE methodologies)
- Modelling and simulation tool for process engineering
- Environmental impact assessment calculation system
- Process control design software for integrating advanced PAT control strategies.

Through this holistic approach, the IbD Platform provides a state-of-the-art platform for process engineering while attracting PI equipment producers and developers to advertise their units by allowing them to upload new modules to the platform, once approved by IbD Expert Committee. As such, the IbD Platform has the ambition of integrating as many PI solutions as possible to ensure we become the most relevant 'go to' platform for users thanks to our up to date and broad PI module database.

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