Puma5

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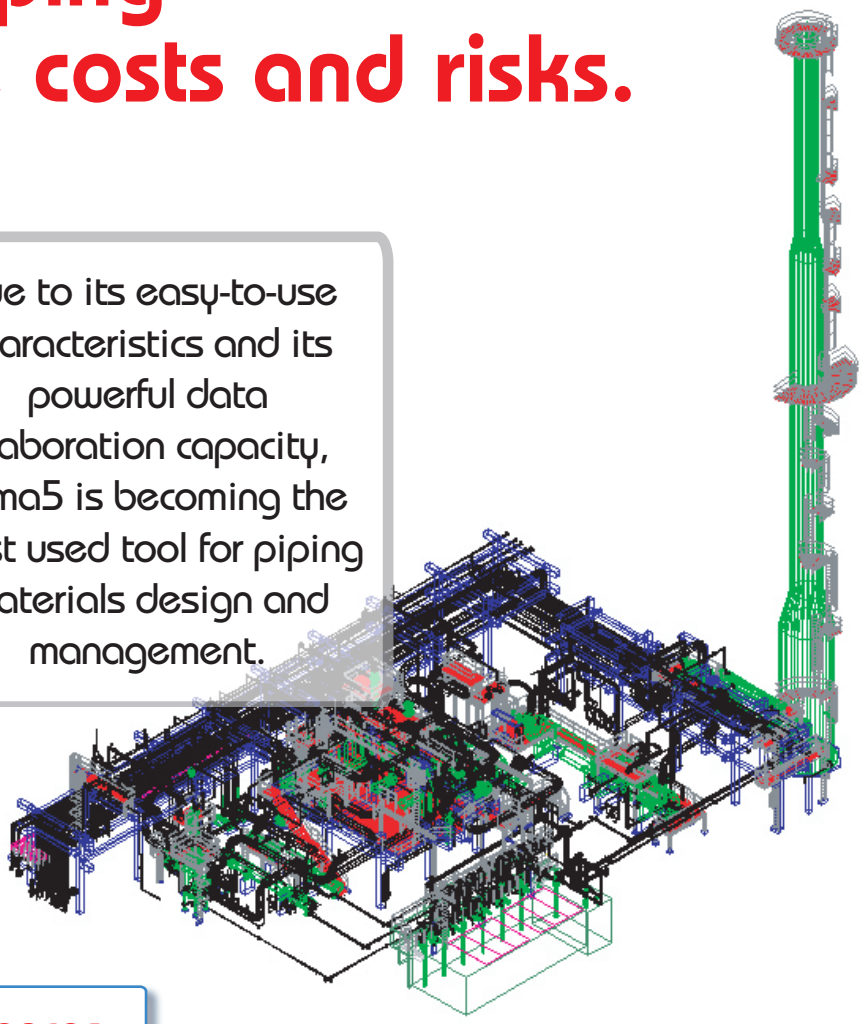
Computer Line Associates

Manage the piping reducing times, costs and risks.

Puma5 is an application software **system for the piping materials management**, specifically developed for the companies working in the industry plant layout, such as: refinery, petrochemical, power generation, iron and steel, water treatment, naval, pharmaceutical, food, construction and erection, etc..
Besides exploiting the normal functions which are typical of management systems, Puma5 is really a working methodology since it is an effective tool for the execution and optimisation of design and management activities, during the whole project life-cycle, from the piping classes creation up to the materials accounting and related MTO's, procurement and construction.

Due to its easy-to-use characteristics and its powerful data elaboration capacity, Puma5 is becoming the most used tool for piping materials design and management.

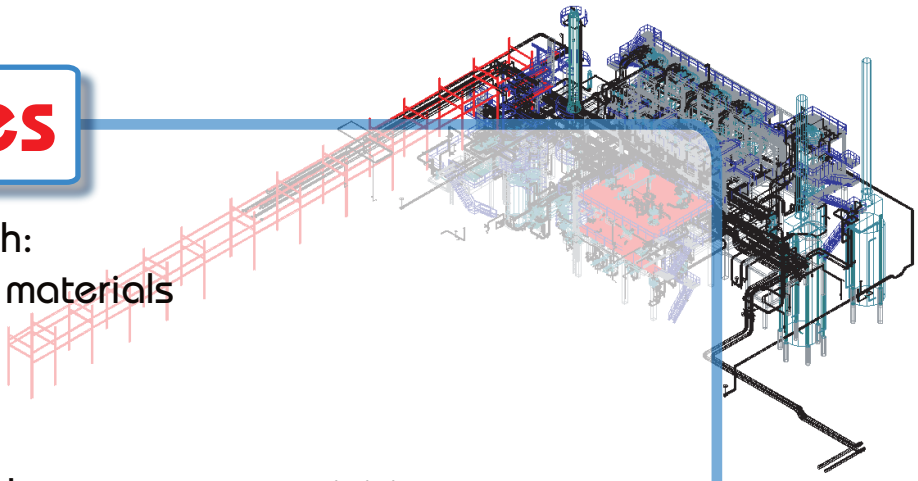


References

Chosen among the over sixty companies utilising Puma5

Ballestra (Italy)
Agip - Eni Kco Division
Ansaldo Energia
Basell Poliolefine Italy
Danieli & C.
Enelpower
Snamprogetti (Italy and UK)
Technip (Italy and UK)
Siconoil (Italy)
Fiat Engineering
Sazeh Consultants (Iran)
Fisia Italimpianti (Inpregilo)
GE Oil & Gas Nuovo Pignone
Saipem Energy International
Paul Wurth (Italy)
Techint (Italy and Argentina)
Black & Veatch (USA)
Siirtec Nigi (Italy)

Advantages



Lower project costs through:

- optimize manage piping materials
- reducing man-hours

Reduce project schedule:

- integration of design and management activities
- dramatic reduction of modifications

Lower project risks through timely and accurate data supply for:

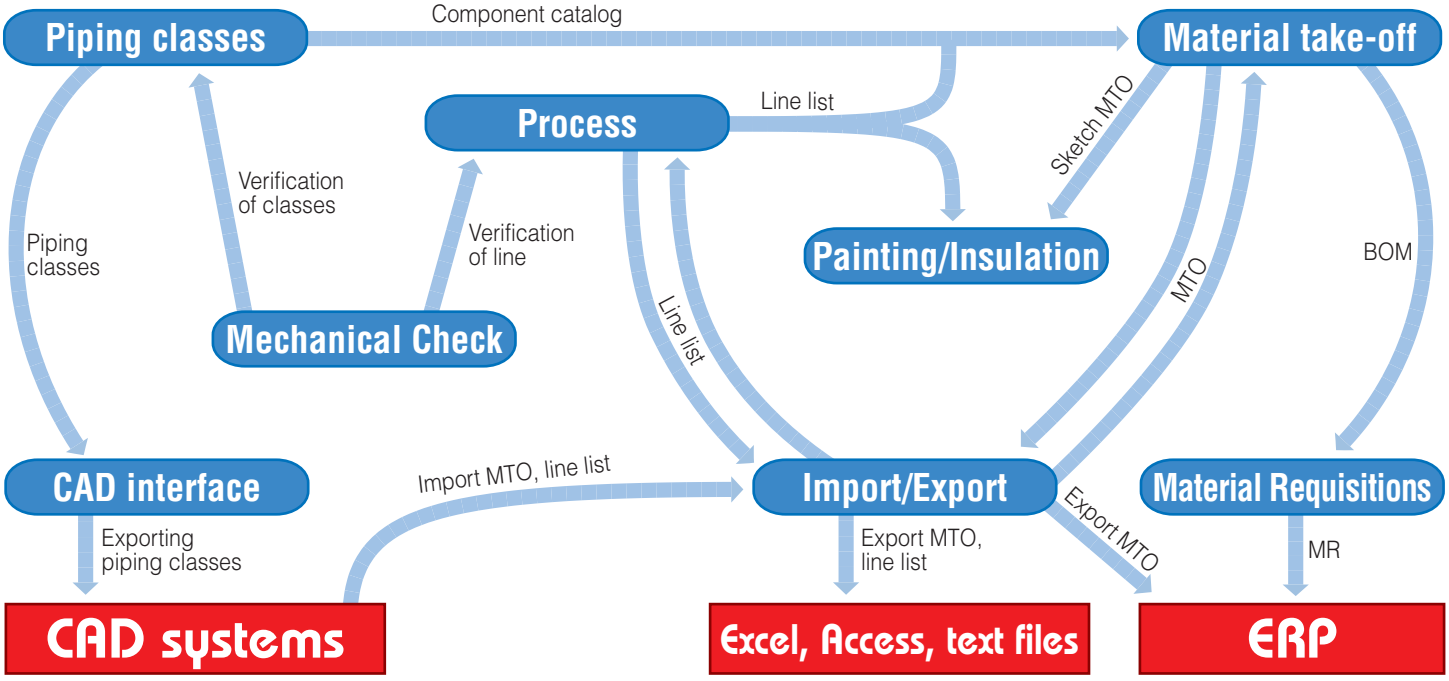
- estimating activities, planning and budgeting
- project control activities

Modules

The Puma5 modules, based on major international EPC Main Contractors' requirements, permit the execution of piping design and management activities in a fully integrated environment and through easy-to-use modules, giving good quality results.

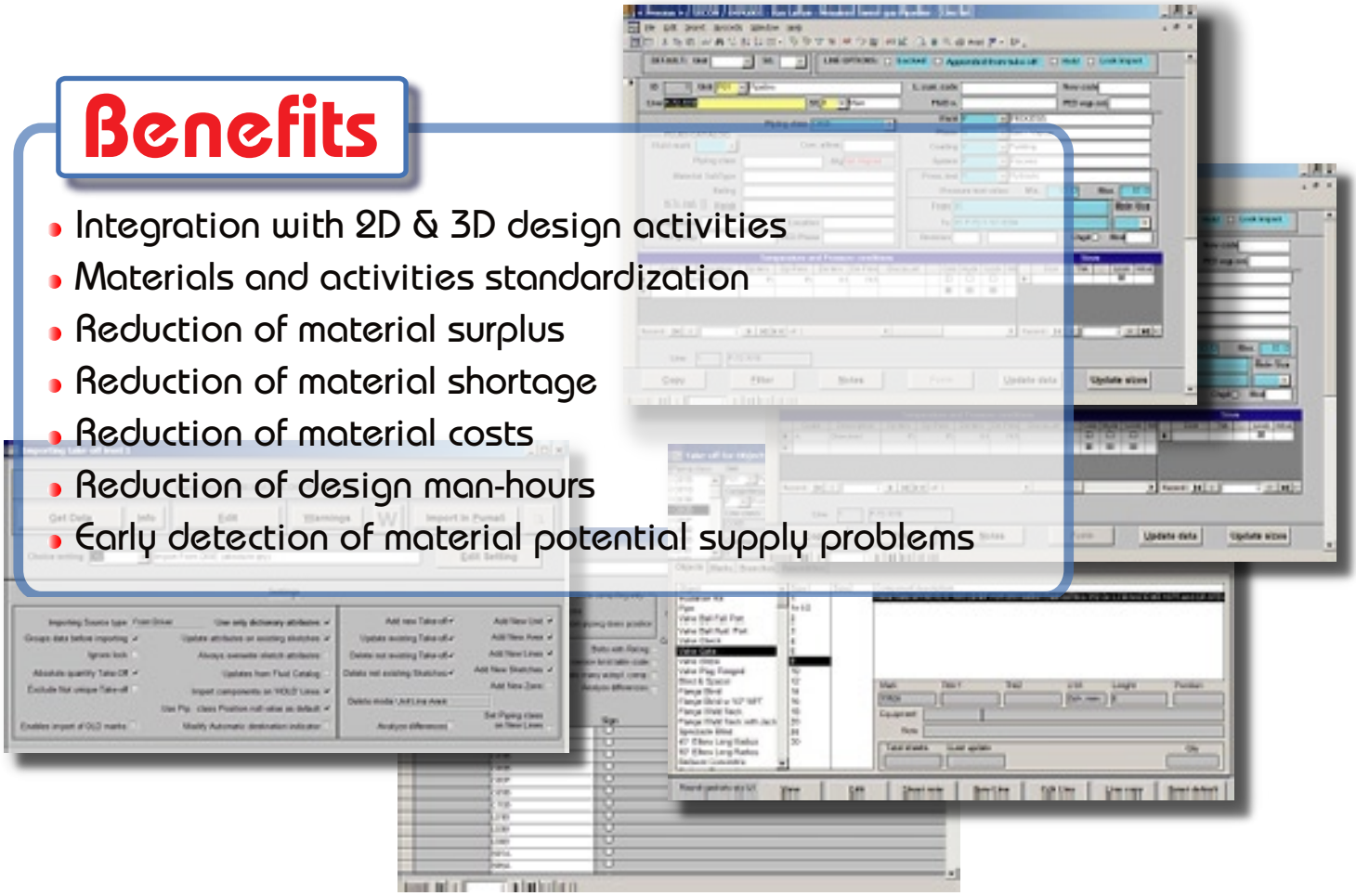
The Puma5 main functionalities are

- Elaboration and management of piping classes
- Definition and optimisation of Fluid Lists and line lists
- Materials accounting and MTO's issue
- Requisitions and support to procurement activities
- Welding quantities calculation
- Construction and erection weight calculation
- Surfaces and materials calculation for painting and insulation
- Automated mechanical verification of pipe thickness and intersections
- Management of prefabrication and site construction and erection
- Integration with the world-wide utilised 3D CAD systems
- Integration with major ERP systems



Benefits

- Integration with 2D & 3D design activities
- Materials and activities standardization
- Reduction of material surplus
- Reduction of material shortage
- Reduction of material costs
- Reduction of design man-hours
- Early detection of material potential supply problems



Modules

Piping Classes

This is **the main module in PUMA5** which provides the definition of dictionaries (including components, materials, design standard, weights, stud and bolts dimensions, component selection rules), as well as piping classes, intersections and assemblies, with automatic creation of codes for each project components.

Process

Definition and management of conveyed fluids process data, with possibility of automatically check the data consistency and align piping classes, Line List and Fluid List. Simulation of impact due to variations.

Take-off

This module permits the **execution of materials accounting** to obtain the MTO's for procurement and construction, both from manual input and directly from 3D CAD systems. Main characteristic is the ability to correct the MTO's, due to modifications after the accounting execution, by aligning automatically: piping classes, MTO's and requisitions. Surplus automatically added (from project tables) or manually added.

Mechanical Checks

Mechanical checks on component dimensioning in accordance with the design codes, including the checks at internal/external pressure conditions and the intersections. Calculation of hydraulic or pneumatic minimum test pressure, definition of test circuits.

Material Requisitions

Generation of components requisitions, from MTO's and/or simulated accounting, grouped and organised per product class, project or sub-project, destination. Ability of exporting to ERP systems, such as SAP and J.D.Edward.

Painting & Insulation

Surfaces and quantities calculation of painting and insulation based on Line List data and component quantities contained in MTO's.

Import / Export

Besides the normal **data import/export from/to different groups performing accounting activities**, in order to have only one project MTO, the module provides export features in the most common formats ((xls, mdb, dbf, wrk, txt) and strong interface functions with other applications, both commercial and proprietary.

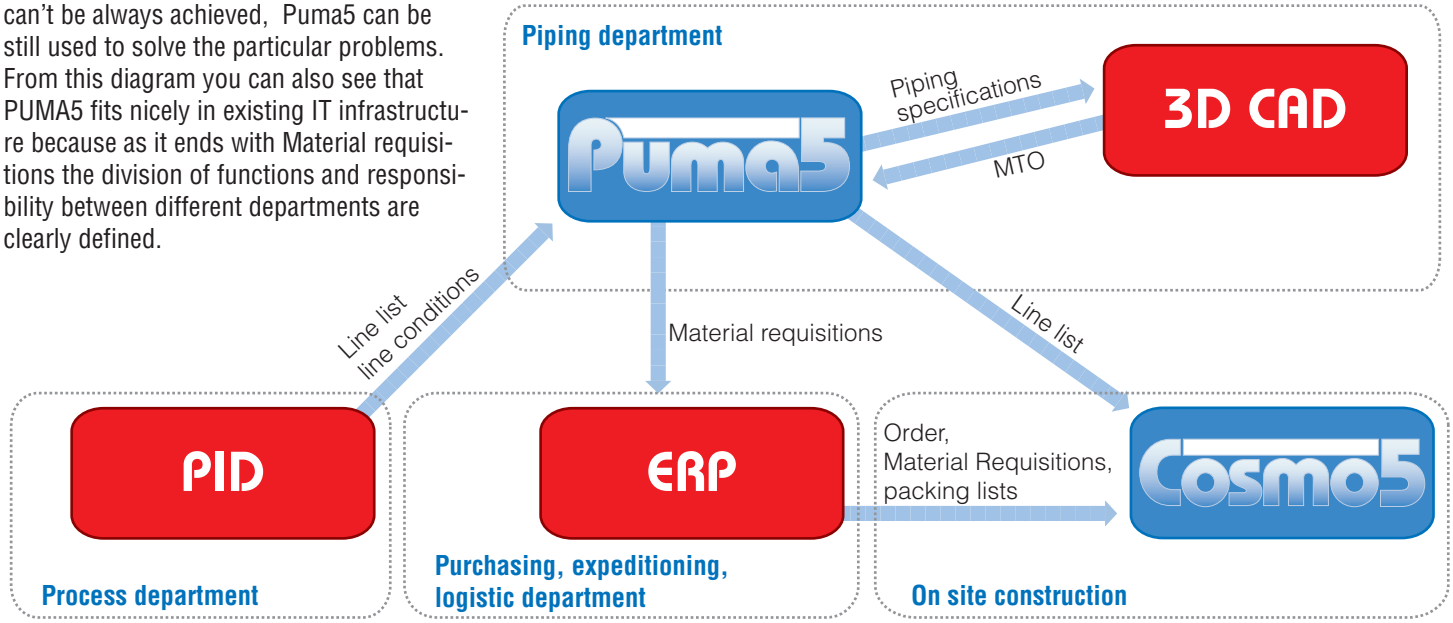
CAD integration modules

These are **interface and integration modules with the most commonly used 3D Cad systems**, which permit the quick and easy generation of component database and piping classes, as well as to directly import the models material list. The modules at present available are:

- AP-Link, for AutoPLANT (Bentley) system
- PDS-Link, for PDS (Intergraph) system
- UG-Link, for Unigraphics system
- PDMS-Link, for PDMS (Aveva) system
- ESApro-Link, for ESApro (Esain) system

Positioning in EPC

This diagram represent the best positioning of Puma5 in typical EPC workflow. As this can't be always achieved, Puma5 can be still used to solve the particular problems. From this diagram you can also see that PUMA5 fits nicely in existing IT infrastructure because as it ends with Material requisitions the division of functions and responsibility between different departments are clearly defined.



Main key factors

- Immediate and easy to use
- Fully integrated with MS Office (export in Excel and Word formats)
- Data located on centralised server continuously updated and available
- Direct integration with 3D CAD systems (Piping Classes export, material lists import): AutoPLANT (Bentley), PDS 3D (Intergraph), PDMS (Aveva), UG (Unigraphics), ESApro (Esain)
- Complete functions to support all the project life-cycle activities
- WEB enabled: all functions available and workable with MS Internet Explorer browser

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