

FactoryFlow

Material flow optimization for compressing time to launch and reducing indirect labor costs

fact sheet

Siemens PLM Software

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► Summary

FactoryFlow is a graphical material handling system that enables engineers to optimize layouts based on material flow distances, frequency, and costs. Factory layouts are analyzed by using part routing information, material storage needs, material handling equipment specifications, and part packaging (containerization) information. For manufacturers worldwide, more efficient factory layouts are a direct result of reduction in material handling costs and improved structured material flow. FactoryFlow's layout evaluation tools reduce the cost associated with errors caused by physically reworking inefficient layouts. The optimized factory designs bring factories online faster and improve production efficiency. Customer testimonials show that users often recover their investment with the first study.

Benefits

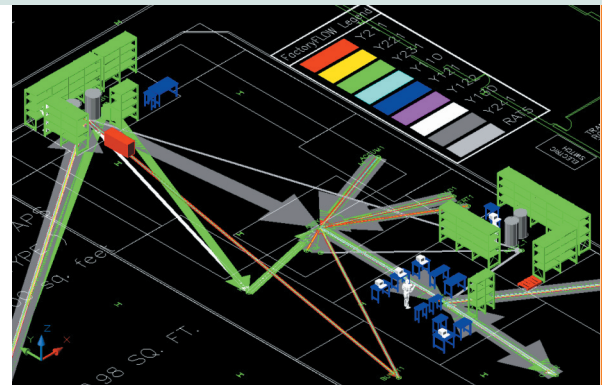
- Create initial layouts easily
- Improve layout productivity by determining the best location of machines and departments
- Reduce material handling needs and storage requirements
- Design workcell layouts on the process plan
- Optimize layouts based on qualitative factors such as noise, dirt and supervision needs
- Diagram material flow intensity
- Calculate material handling costs and requirements

Features

- Flow chart feature to develop material routings
- Cut, copy and paste multiple activity points
- Rapid editing of the material routing file
- One project database instead of multiple individual data files
- Material handling device utilization calculation
- Data editing via Excel
- Automatic container placement routine

FactoryFlow's business value

Manufacturers invest millions of dollars, including hundreds of industrial engineers, to squeeze as much productivity as possible out of the direct labor side of their business – the machines on the line, the tooling and fixtures, the workers at their stations and the production processes. Meanwhile, little focus is directed toward the issue of indirect labor – the people and the processes employed to get material from the loading dock to the production line. FactoryFlow is a unique solution not only in its focus on optimizing indirect labor, but also in its simple yet powerful approach to the issue.



The FactoryFlow advantage

A typical factory layout or engineering effort includes layout considerations and capacity, utilization, throughput and resource constraint analysis. FactoryFlow stands alone in situations where the layout is the focus of the project. In situations where there are capacity or process issues, FactoryFlow adds significant value to the simulation effort and improves the quality of the overall engineering work.

Using FactoryFlow

FactoryFlow uses aisle network information to find the shortest distance between any two points to identify the closest incoming dock and storage area to a part's point of use. Material flow studies are performed on alternate layout configurations and automatically compared to determine which layout is better. FactoryFlow can also be used to compute material handling equipment requirements and optimized tigger (milkrun) routes. Users can also use the available container information to auto-populate containers and bins on storage areas and racks in order to create operator walk paths. Factory layout information is stored in a FactoryFlow database. FactoryFlow uses this information to help engineers develop layouts that facilitate the manufacturing process. FactoryFlow generates Euclidean (point-to-point) material flow diagrams, actual path flow diagrams, aisle congestion diagrams and quantitative reports so engineers can compare layout options and improve production efficiency.

What are the major benefits of FactoryFlow?

Lean factory layouts reduce part travel distances, lot sizes, and inventory levels and improve communication and throughput – resulting in decreased manufacturing costs and increased productivity.

With improved communication and justification, team buy-in is faster and easier because users can quickly evaluate hundreds of part flows graphically that are difficult to do in a manual method. FactoryFlow's systematic, graphical and quantitative approach focuses groups on engineering issues that offer the greatest potential benefits.

No other application offers such a powerful and simple solution for improving the oft-neglected indirect labor side of the manufacturing business.

Major capabilities

Flow charts. The flow chart feature allows you to develop material routings using standard process symbols. You can elect multiple activity points and move arrows in the flowchart for mass routing change. Also, there is a capability to cut, copy, and paste multiple activity points for rapid editing of the material routing file.

Data templates and equations. FactoryFlow provides data templates that contain standard information to enable you to compute and track micro-activities such as the amount of time spent on cutting open cardboard boxes or walking.

Material flow calculations. FactoryFlow checks the data to verify that the proper devices are being used, and notifies you when material handling devices are under- or over-utilized, so that you can track the use of your operating assets.

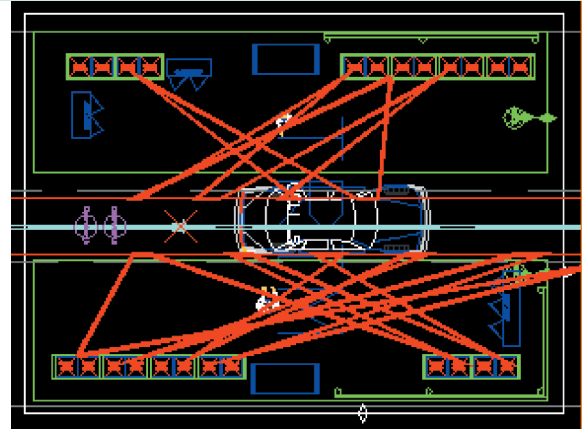
Material handling equipment utilization. FactoryFlow provides tools to assess the requirements for material handling equipment such as fork-lifts and tuggers. The analysis can create a variety of reports including the type of equipment, number of trips by route and material, and the level of utilization. This information is a key to understanding where savings could be made in equipment requirements by adjusting aspects of the factory layout.

Container packing. The container placement routines automatically place containers on the shop floor as well as on racks, using an optimum container packing routine.

Activity points. Activity points allow FactoryFlow to determine exact work center locations when material flow diagrams are created.

Walk path generation. FactoryFlow also has intelligent walk path creation algorithms that allow you to see the effect of material placement in a workcell almost immediately.

Reports. Besides color-coded flow diagrams and graphs, FactoryFlow allows you to create many types of detailed reports on the layout, material flow, time and cost saving comparisons.



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