

## NEW FACTORY LAYOUT

After undertaking a new factory layout project supported by FIRA engineer Bruce Lovell and funded by M.A.S West Midlands, Isu Ltd has identified 105K/annum savings by moving their current manufacturing operation to a new building with improved layout.

**Engineer feedback** - "Isu realised that their current facility did not lend itself to manufacturing their product range efficiently. They made a decision to move and required a new layout design that matched their future requirements. If a layout is poorly designed it can bring high handling costs, confusion, and inflexibility. Correcting these problems may require complete rearrangement at major cost if not planned in detail from the beginning".

**Bruce Lovell, Engineer, FIRA**

### Background

ISU design and manufacture contemporary seating for both commercial and private clients. They sell via dealers and architects as well as directly to the end customer. Sales are increasing but the current factory is a made up of several small rooms and is not conducive to expansion. Isu have found new premises locally to move into.

### Objectives

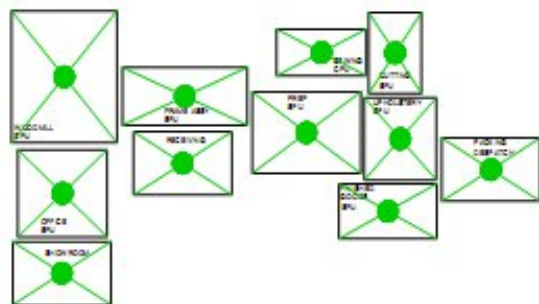
The objectives set for the FIRA engineer were to design an ergonomic layout to improve process flow and to allow ISU to expand easily, provide all technical drawings and report detailing design decisions.

### Method

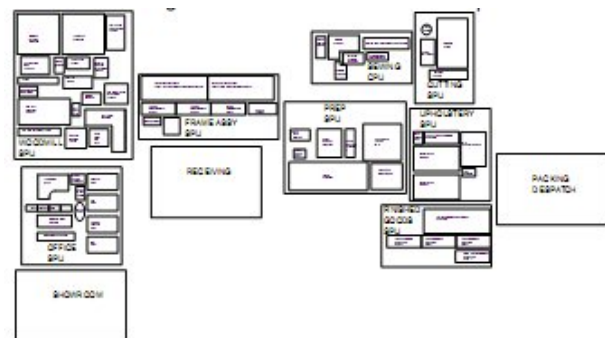
The first stage was to visit and measure up the new building and redraw on CAD.

Data capture was then required to design the new layout, product volume analysis and inventory space analysis. Next, the space plan was created in the following steps:

- Defining and locating operating departments and determining overall material flow
- Creating Space Planning Units for each of the business units on CAD
- Defining affinities - factors that demand closeness between any two cells in space plan - use affinity matrix
- Creating affinity Diagram and manipulating the diagram to get different options - the best option was chosen



From the Affinity diagram the Space Plan Diagram was produced detailing current infrastructure in each space.



The constraints of the new building were identified and listed. These constraints limit the ideal space plan e.g columns, floor loading and utility locations. Using optimum CAD layout DWG and constraints the space plan was redrawn to Micro level detail.

The final stage is the sub micro level. This is the next level of design detail and looks at location of equipment, furniture and workstations of each cell.

**FIND OUT HOW YOU COULD BENEFIT FROM SIMILAR RESULTS**

Tel 01438 777700 • Email [blovell@fira.co.uk](mailto:blovell@fira.co.uk)