

### Control Room Project - DSM SP

Usually, control room projects concern an upgrade of existing instrumentation in a control room, as well as in the field (process equipment). Currently, control rooms equipped with CRT's (video display units) and conventional panels are redesigned with LCD's only. This type of project was carried out at the *DSM Special Products* plant in Rozenburg (Netherlands). ErgoS Ergonomists contributed to this project.



A short situation analysis was performed in the existing control room in order to get sufficient insight in the operator jobs. In addition, a committee of shift representatives worked together with an ergonomist and an architect, to develop a new layout of the building, the workplaces and so on. One problem to be solved was determining the number of fully equipped operator workplaces.

### How to visualize a design proposal

Designing control rooms has been a major activity of ErgoS during the past 20 years. Based on these experiences, we are convinced of the high value involving the operators (end users) in a design project may have. An important success factor for user participation is a clear visualization of alternative design proposals. In case of the DSM SP project, ErgoS developed and visualized several lay outs by means of 3D-drawings. This type of presentations can be realized in just a few days time. They clearly show future users what the new situation could look like. In addition, comments by operators can easily be included in the design.



### Project Ergonomics

ErgoS is active in a broad range of ergonomic activities, often within the context of industrial projects, such as:

- workplace analysis and (re) design
- task analysis and task allocation
- lay-out, routing & logistics
- instrumentation, visual display units
- software, human-computer interaction
- workorganisation design
- user participation projects
- ergonomics courses for engineers
- risc inventory and evaluation.



**ErgoS Engineering & Ergonomics** is specialized in human-centered design of production systems, control rooms and human computer interaction. ErgoS is an independent consultancy and engineering company for all kinds of Human Factors projects, including job design and work organization design. The range of activities includes contributions to feasibility studies up to detailed design of individual workplaces or computer screen layout.

ErgoS works according to the international Code of Practice for European Ergonomists.

More information is available on our website [www.ergos.eu](http://www.ergos.eu).

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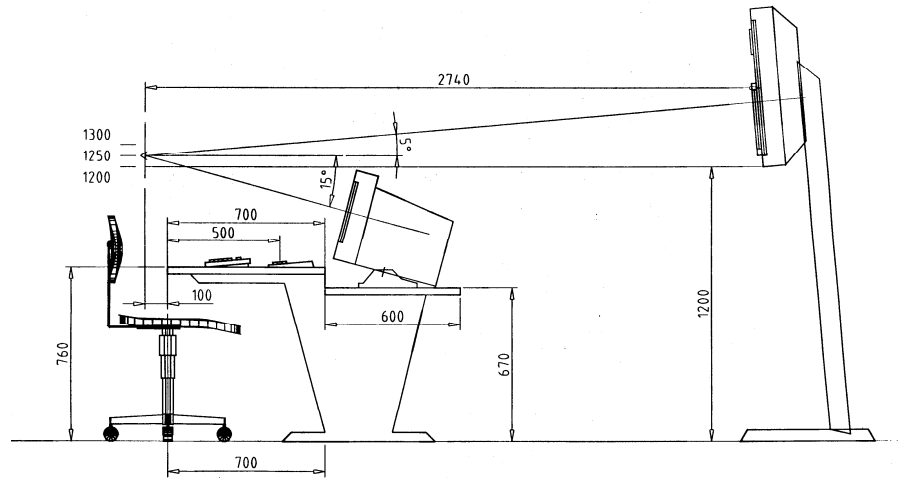
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## Do you need an ergonomist ?

Ergonomics: everybody can do it! It is just "common sense". However, be cautious. In particular during projects, management and engineers need their time and energy for the project itself. There are deadlines to be met and the time available is always (too) limited. Hence, ask yourself whether you will be able to organize user participation, analyse the existing control room, discuss alternative design proposals together with all those who are involved in the project, etc.

Ergonomics is not always a matter of "common sense". Workplace design may be a complex matter. For instance the position of CRT's depends on the visual characteristics of the human eye, font size of characters on the screen (readability), hindrance by reflecting light sources, the number of CRT's, as well as the importance of the data on the screen. It may be a good idea to hire a specialist in human factors engineering.

## Detailed design documents



A detailed specification of a control room layout and workplace design is needed to contract manufacturers of (special) furniture. Usually many technical questions arise during contracting. For example: "is it possible to build computer equipment into the console leg?", or "where do we put all the cabling?". The ergonomist should be available to answer these questions and to make sure, the operator still can sit comfortably behind the desk, i.e. there will be sufficient space for his legs below the desk. In addition it is suggested to specify lighting fixtures in detail, because it highly determines the quality of the working environment and the readability of computer screens.

## Results

Both pictures show the new DSM SP Control Room. On the right side you see the new permit handling desk. Visitors and contractors no longer just walk into the control room. Below, the operator desk, including two fully equipped workplaces and one partly equipped workplace (for process conditions needing three operators) is shown.

