IBS Precision Engineering

In IBS Precision Engineering you will recognise a leading innovator in high-grade precision engineering, constantly challenged to push back frontiers. From our offices in Europe and agents around the world, we serve the world market with both standard and customised metrology solutions and engineering services that excel in accuracy and efficiency. For our customers this will ultimately result in a better product quality, an increased productivity and reduced costs.

IBS Precision Engineering is involved in special measuring machines, non-contact measuring systems, machine tool calibration & inspection systems and air bearings.

We currently have an open position for:

Graduation project: Air roller for Roll-2-Roll processes

The best way to deal with contamination and defects is to avoid them. This will save costs for (preventive) pre-cleaning and rework and will reduce scrap. In the semiconductor industry huge effort is made on preventive machine design and substrate handling. Not all of those procedures, designs and environment conditions are applicable for R2R processing and plastic substrates. Therefore, in this project, a new type of transport roller will be developed using air bearing technology.

An alternative for mechanical rollers are air rollers or air bearing rollers. With an air roller it will be possible to bend the web around without touching the surface. This will benefit the coated site as touching will be avoided. Conventional air rollers consist of an array of orifices resulting in a varying pressure distribution, stability problems and an huge air consumption. With the design of a new type of air roller using porous media this can be significantly improved. With porous media it is also possible to design concave air bearing segments. They can be applied to realize the necessary preload. This technology has to be studied and several prototypes be developed. For the non-coated site a mechanical roller using air bearings reducing the friction losses should be developed.

The conventional web transport rollers can be replaced by air rollers however, they have to maintain a good control about the web regarding web tension, web positioning and vibrations in the web, since those parameters have a significant influence on the product quality. A test setup will have to be realized proving the capability of the different air roller designs.

Interested in joining our enthusiastic team of highly qualified professionals? Please send your application and CV to dr. H.A.M. Spaan. E-mail: spaan@ibspe.com.

At the cutting edge of accuracy