Application Story

Isotron Systems **in collaboration with:**
Techno Centre for Education and Research, University of Twente

Unitronics Netherlands- Vision350™ Controls a *Dry-Spinner* for "Wet Bench" Application

The Vision350™ unit has been proven so successful with *Isotron Systems* of the Netherlands, that they created four, one day workshops to bring clients up-to-date on the ins and outs of the product.

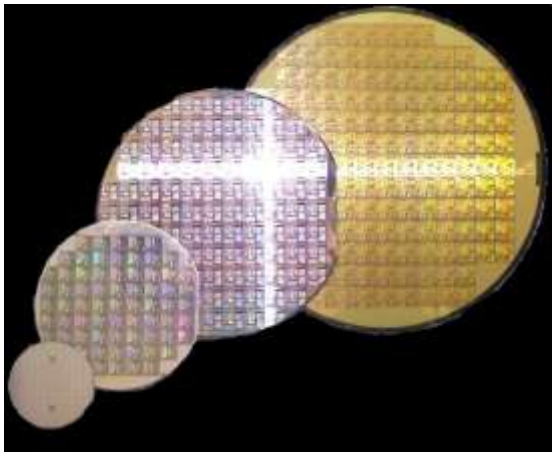
One of the training sessions was attended by several members of the TCO (Techno Centre for Education and Research) department of the University of Twente in the Netherlands. TCO develops research drafts and new applications for researchers of the university, as well as for external companies.

With the Unitronics V350, TCO explained that they were able to successfully control a *Dry-Spinner* for an application called "Wet Bench" that is researched and conducted in the clean room of the nanolab at MESA+ at the University of Twente in Enschede, Neatherlands.

A clean room is an environment, used mainly for industrial production of scientific research, in which the lowest possible amount of contaminants such as dust, airborne microorganisms, fine particle matter, or chemical vapors may be present.

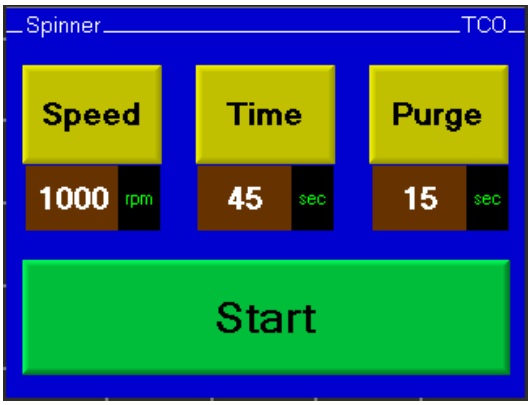
In this case, the TCO developed Dry-Spinner aims to "dry spin" a wafer (a thinly sliced monocrystalline semi-conductor material, e.g. silicon, on which an integrated circuit is constructed),for the ensuing process.

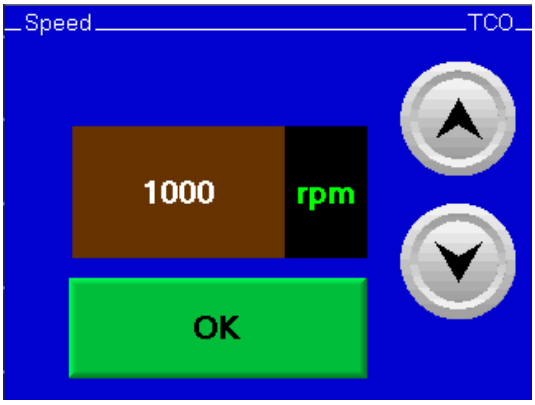
Because of the high rotation speed the moisture is literally flung off the wafer by the power of centrifugal force. Afterwards there is a final drying treatment with nitrogen.



As the Dry-Spinner can be used for multiple applications, it is important that the different process parameters can be separately entered. By way of the pressure sensitive color screen, the operator can simply set speed, time and purge. During the dry-spin process, the Unitronics V350 will indicate the actual true speed and rest times.

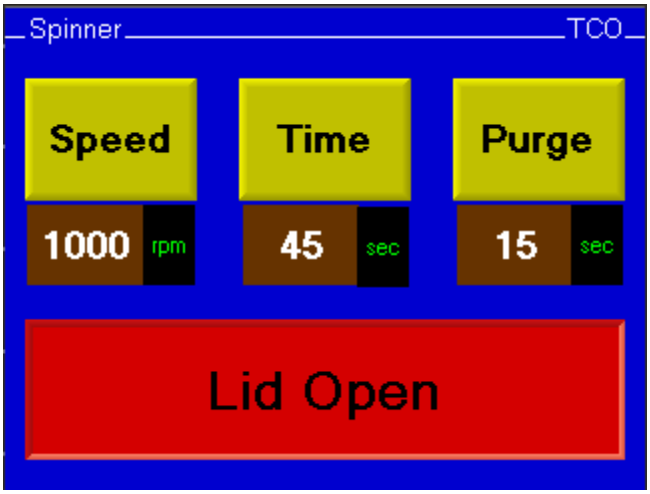
By pushing the SPEED button (example below), one can simply adjust the indicated value and confirm by pushing Ok.

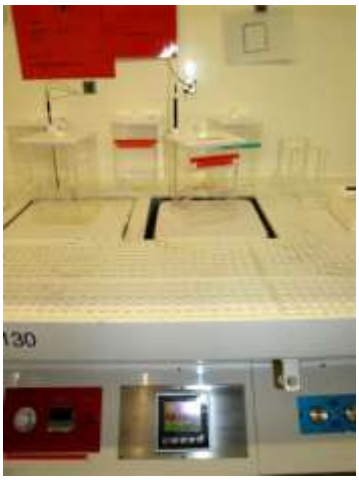




After the three parameters are set up, one can start the Dry-Spinner by pushing START.

The PLC also monitors and identifies the safety signals. The lid is pre-blocked and can only be opened when the motor stops. In contrast, the dry-spinner can only be started when the lid is closed.





In the meantime, TCO already has a new V350 application available; a *Heater* which next to the *Dry-Spinner* in a Wet Bench takes a wafer to a certain temperature and holds it for a certain time at the set temperature. This brings together the operation, navigation and temperature control.
The lay-out of the *Heater* operation has many similarities to the lay-out of the *Dry-Spinner*.

Through this simple and easy to use Vision350™ PLC+ HMI, TCO has succeeded in presenting a system that is simple enough to intuitively operate, that operators can now work without a user manual.

In short, it is not only the simplicity of the engineering that makes the V350 so unique, but also the practical operation and legibility, which in many cases is of even greater importance.

For more information, please visit: www.isotron.nl, or http://www.utwente.nl/en