

From: Kostas Kloukinas <Kostas.Kloukinas@cern.ch>

Subject: Access to 65nm technology

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Dear Colleagues,

Recently we had numerous requests from the chip design community in HEP from groups interested in starting soon activities in the new 65nm technology and therefore we would like to inform you on the status of the project.

The CERN Finance Committee has approved in the session of March 20 the proposal for negotiating a detailed contract with IMEC for accessing a 65nm from TSMC, with a model essentially very similar to the one we had for accessing the old 130nm technology.

At this point there are essentially three issues pending and we would like to provide you with some more details about them:

- Status of the detailed commercial contract with IMEC.
- Status of the legal negotiations with TSMC to allow a collaborative effort among HEP Institutes all using their technology.
- Status of the design kit and tools necessary to support the utilization of this technology.

Commercial contract

>From the experience gained in previous similar contracts with foundries, we expect that a period of 3-4 months might be necessary for the CERN Finance Department to iron out all details of the commercial (multi-million) contract with the new supplier. Such details include the final pricing table for all options available for the technology (number of metal layers, types of transistors, MPW options, production options etc.), payment details, delivery details, penalties and confidentiality. In the interest of the entire community, we are obviously aiming at obtaining conditions similar or better than the ones we had with our previous supplier.

Collaborative model

The confidentiality model assumed by default by TSMC is much more restrictive than the one we had with the previous supplier and in practice would not have allowed to work on common projects in the community. These strong limitations have already been discussed in preliminary meetings with the foundry and finally they have agreed to allow us to work in a scheme similar to the old one, where essentially there was free exchange of information between users in the HEP community. Still, this requires that a special NDA be distributed by IMEC to interested Institutes. The details of this NDA are under discussion right now and we expect to converge on them before the commercial contract is signed.

Design Kit

CERN would like to distribute to the community a unique 65nm design kit tailored to the majority of the typical projects in the community and provide from the start a unique design flow (for both analog and digital chips), and a qualified library and methodology. To this purpose, Cadence has been awarded from CERN a contract to produce a design kit functionally similar to the one we had for the 130nm technology and is expected to deliver it for testing to CERN in the coming weeks. Once this kit will be available, we expect that its distribution will actually be done by IMEC. While users could in principle download a design kit from the TSMC site right now, we discourage from doing this as the new design kit and methodology will be quite different from the one of the foundry and users may end up with frustrating changes for their projects. Again, we expect that the new kit will be ready for distribution by the time that commercial contract will be ready.

Finally, we are planning one or more information sessions, possibly joined with a first design kit training before the summer, and we will certainly keep you informed of any obstacle intervening on this path.

We thank you for your patience and we can assure that we are working to solve the issues above to the best of our effort.

Should you need more details about the points above, please do not hesitate to contact us.

Sandro and Kostas

