DT Readout Electronics

STATUS REPORT

CMS Week December 2002

HPTDC STATUS REPORT

- 5 waffers of the corrected HPTDC chip were obtained from the engineering run.
- 4 waffers have been delivered to Honk-Kong for dicing and packaging.

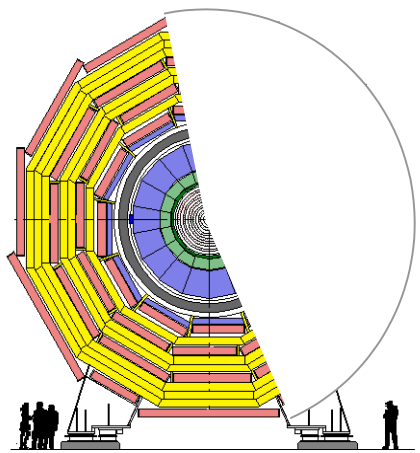
A problem in the industry

1756 chips (+ 630 chips if remaining waffer is packaged)

- They have arrived at CERN/MIC for testing.

~600 chips for ALICE
~600 chips for CMS

that will only equip about 25 MC



ROB STATUS

- **Final PCB is under production, 1500 units expected by middle December.**
- **Assembly will start when we get the HPTDC chips:**

Preliminary assembly plan:

- **50 ROBs in Feb 03**
- **250 ROBs in Apr 03** ← 1200 HPTDC from engineering run
- **600 ROBs in June 03** ← 2400 HPTDC from production
- **600 ROBs in Nov 03** ← 2400 HPTDC from production

- **ROB production tests are ready:**
  - **Acceptance of the ROB assembly at the industry.**
  - **Validation of ROB functionality at CIEMAT**

  97% of the ROB is tested.

- **Burn-in of all accepted ROB's:**
  - **Monitored and operated.**
  - **System is under development.**

ROS STATUS

- 5 ROS 8-channel prototype has been built and tested with satisfactory results.
- One sample is being used in Padova/Legnaro, operating in VME mode.
- Some functionality has still to be tested.
- Link to DDU is still under definition.

MINICRATES STATUS

- Two MB1 are mechanically assembled. One of them was taken to Padova:
  + Read Out was assembled and tested.
- One MB2 prototype is ready and will be used to test Madrid chambers.
- Final MB2 drawings are ready and small parts are being produced in Bologna.
- MB3 design is being finished at CIEMAT and a prototype will be produced in Madrid. Later it will be sent to Italy.

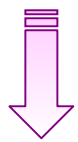
MB1 MINICRATE INSTALLATION IN PADOVA

MB1 MINICRATE INSTALLATION STATUS

- Installed Minicrate has been tested in Padova and in Legnaro by the DAQ people (G. Maron, N. Tolino), they report:

> **"...The ROS readout is performed using a XDAQ framework and data are written into a flat file. Data are also spyed by a simple monitor program (based on root) and preliminary data check can be performed. ROS is configured by the XDAQ software, all the minicrate is configured via your LV program...."**

- Some problems have raised in their tests in Legnaro,



presumably due to clock noise because of the provisional TTC system.

PRODUCTION PLANS

CMS Week December 2002

PRODUCTION TERMS

- HPTDCs

  it takes about 6 months since they are submitted until they are received in Madrid.

- ROBs

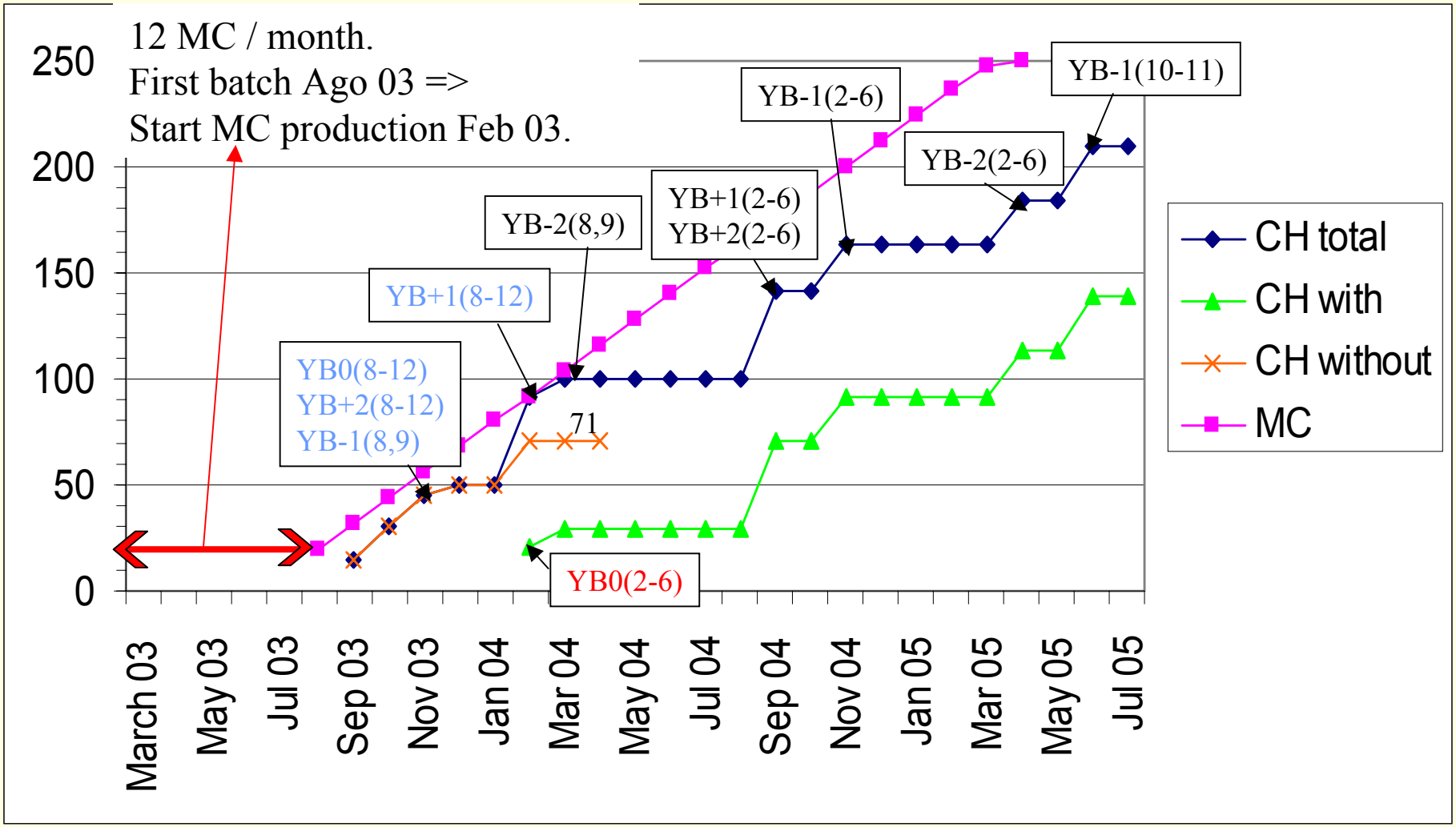
  once we have the HTPDCs they could be mounted and tested in about 2 months.

- MINICRATES

  Readout assembly will be done by an industry at Madrid.
  They have to be delivered to Italy.
  Trigger items will be assembled in Italy.
  MC delivered to CERN and installed in the chambers.

  } ~ 6 months

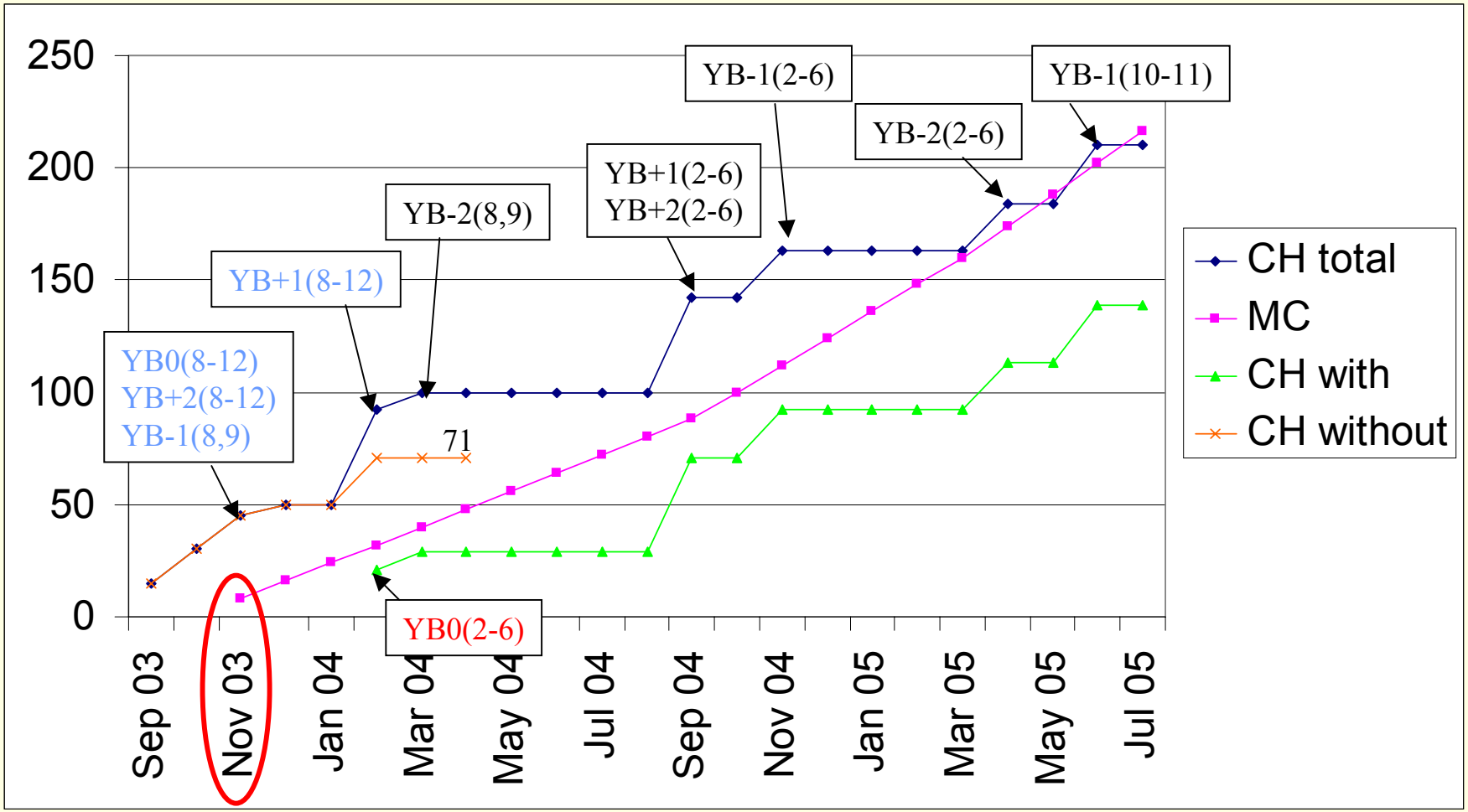
CHAMBERS INSTALLATION SCHEDULE



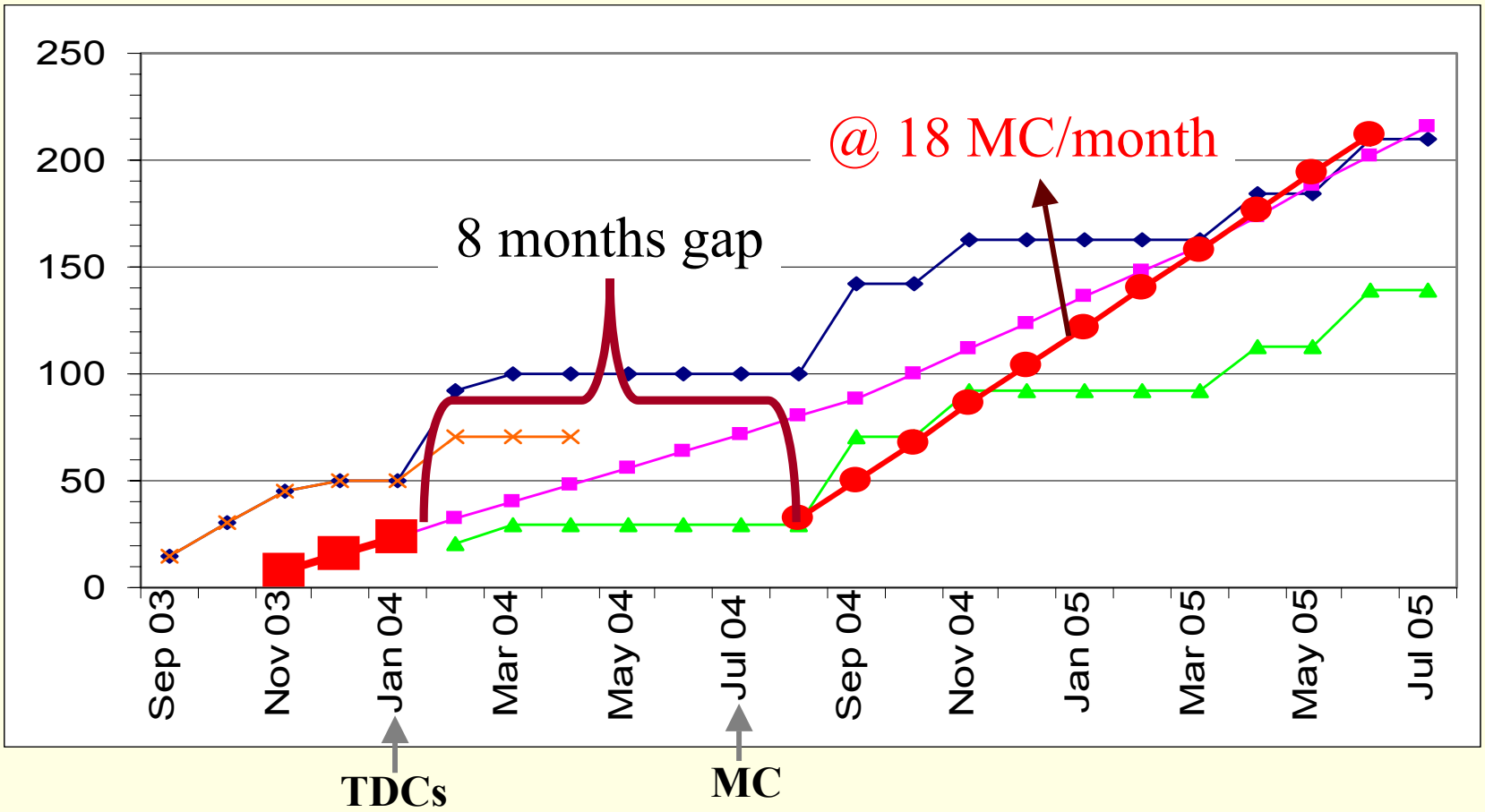
Full production of HPTDC **ENDED** by June 03

MINICRATE INSTALLATION SCHEDULE

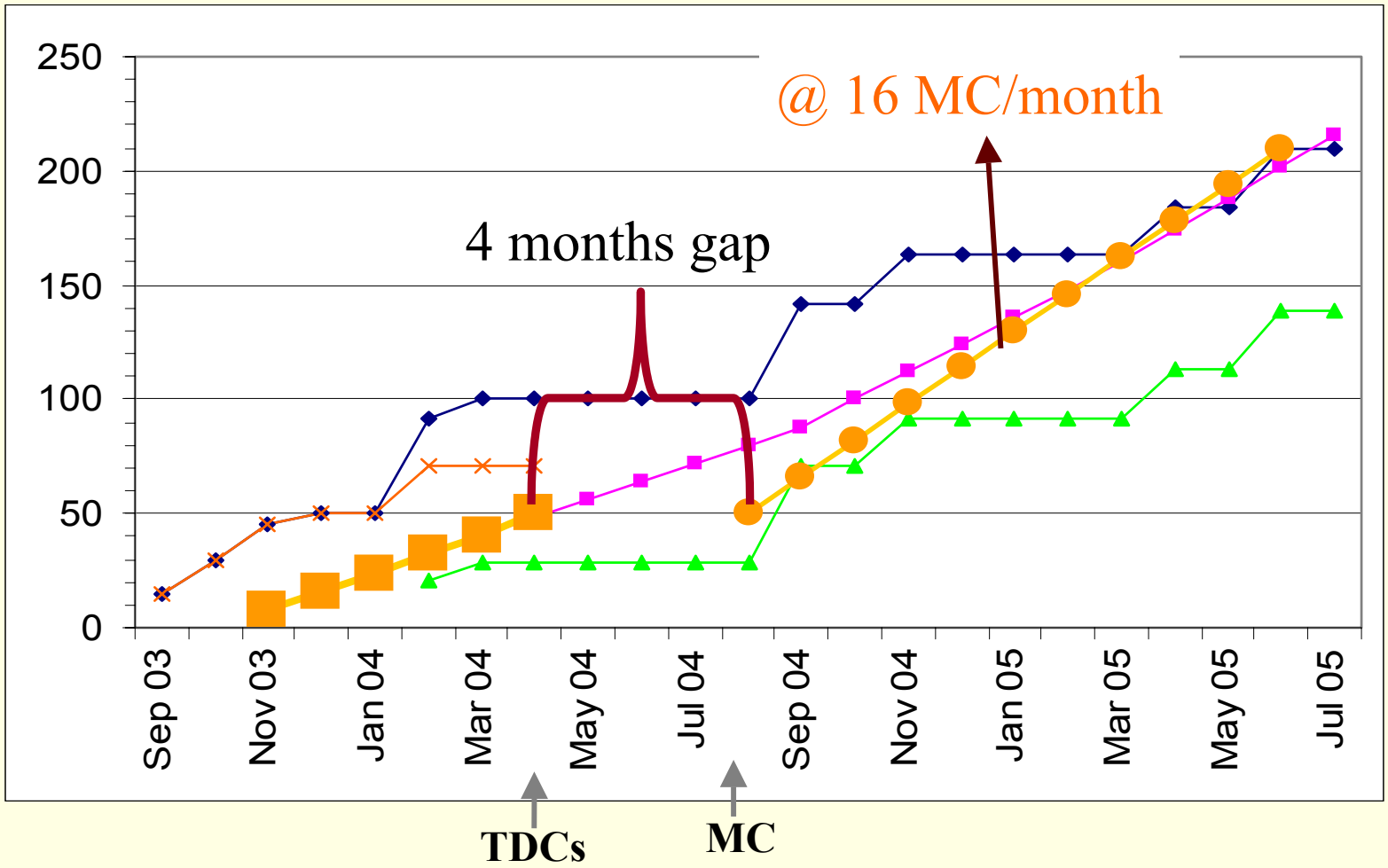
Variable MC production rate: @8 MC/m => @X MC/m



MINICRATE INSTALLATION SCHEDULE



MINICRATE INSTALLATION SCHEDULE



SUMMARY:

From the readout point of view:

- First 25 Readout Minicrates would be available by middle 2003.
- Next MCs will depend on HPTDC availability.
- We must make every effort to accelerate HPTDC final production.

Full production depends on several aspects:

- Validating HPTDC as soon as possible (testbeam,...)
- Agreement on full production => ~ 25000 chips.