Design Kits, Libraries & support

Design kits management and main data

CMP distributes the design rules for each technology and the standard cell libraries for each specific software tool (design kits). CMP handles 36 different design kits (corresponding to different technologies and different CAD tools), which are sent to customers upon signature of a Confidentiality and License Agreement. Design kits are sent free of charge. Over 1,300 customers, (academic centres and industrial companies) from 70 countries have already signed agreements and received design kits.

Figures below show the distribution of design kits per foundry and geographical areas, in 2014.

Globally the number of Institutions which received design kits are:

- **16 new Institutions** for ams with a total of 451 Institutions
- **38 new Institutions** for STMicroelectronics with a total of 615 Institutions

In 2014, a total of 289 design kits were distributed, according to the geographical distribution below.

Worldwide distribution:
### IC Libraries

**ams supported CAD tools**

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Schematic &amp; Design Entry</th>
<th>Electrical Simulation</th>
<th>Digital Simulation</th>
<th>Logic Synthesis</th>
<th>Layout &amp; Verification</th>
<th>P&amp;R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cadence</td>
<td>Composer</td>
<td>Spectre</td>
<td>NC-Sim</td>
<td>RTL Compiler</td>
<td>Virtuoso</td>
<td>Encounter</td>
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<tr>
<td></td>
<td></td>
<td>Hspice</td>
<td>ams Designer</td>
<td></td>
<td>Assura</td>
<td>Digital Implementation</td>
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<td></td>
<td></td>
<td>Ultrasim</td>
<td></td>
<td></td>
<td>QR</td>
<td>(EDI)</td>
</tr>
<tr>
<td>Mentor</td>
<td>Graphic</td>
<td>-</td>
<td>Eldo</td>
<td>-</td>
<td>Calibre</td>
<td>-</td>
</tr>
<tr>
<td>Synopsys</td>
<td>Design Compiler</td>
<td>Hspice</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Tanner</td>
<td>S-Edit</td>
<td>TSpice</td>
<td>TSpice</td>
<td>-</td>
<td>L-Edit</td>
<td>SPR</td>
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<td></td>
<td></td>
<td>DRC</td>
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</table>

**STMicroelectronics supported CAD tools**

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Technology</th>
<th>Design kit</th>
<th>Software</th>
<th>Version</th>
<th>Fields of application</th>
</tr>
</thead>
<tbody>
<tr>
<td>ams</td>
<td>Bulk Micromachining</td>
<td>HIT-Kit_ams_4.10</td>
<td>Cadence</td>
<td>Cadence IC 5.1.41/6.1.5</td>
<td>Physical layout and DRC</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>T Tanner</td>
<td>L-Edit</td>
<td>Physical layout and DRC</td>
</tr>
<tr>
<td>Teledyne Dalsa</td>
<td>MIDIS</td>
<td>MK1551</td>
<td>Coventor</td>
<td>CoventorWareTM</td>
<td>Physical layout, design entry and multi-physics analysis</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cadence</td>
<td>Virtuoso Layout Suite ver. IC6.1.5</td>
<td>Physical layout and DRC</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ANSYS</td>
<td></td>
<td>Multi-physics analysis</td>
</tr>
<tr>
<td>Memscap</td>
<td>MUMPs</td>
<td></td>
<td>Tanner</td>
<td>L-Edit</td>
<td>Physical layout and DRC</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SoftMEMS</td>
<td>MEMS Pro v7.0</td>
<td>Physical layout and DRC, multi-physics analysis</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cadence</td>
<td>Cadence IC 5.1.41/6.1.5</td>
<td>Physical layout and DRC</td>
</tr>
</tbody>
</table>

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**MEMS design-kits**

- **HCMOS9GP**
  - COB 5.1.41
  - OA 6.1.3
  - Spectre
  - Hspice
  - ModelSim
  - QuestaSim
  - Calibre
  - -
  - VHDL
  - -
  - -
  - -
  - -
  - -

- **BiCMOS9-MW**
  - X X X X X X X X X X X X X X X
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  - -

- **H9SOI**
  - X X X X X X X X X X X X X X X
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  - -

- **CMOS065**
  - X X X X X X X X X X X X X X X
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  - -
  - -

- **BiCMOS55**
  - X X X X X X X X X X X X X X X
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  - -
  - -

- **CMOS028 FDSOI**
  - X X X X X X X X X X X X X X X
  - -
  - -
  - -

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**Manufacturers**

- **ams**
  - **Technology**: Bulk Micromachining
  - **Design kit**: HIT-Kit_ams_4.10
  - **Software**: Cadence, T Tanner
  - **Fields of application**: Physical layout and DRC

- **BiCMOS9-MW**
  - **Technology**: MIDIS, MK1551
  - **Design kit**: Coventor
  - **Software**: Cadence
  - **Fields of application**: Physical layout, design entry and multi-physics analysis

- **H9SOI**
  - **Technology**: H9SOI
  - **Design kit**: T Tanner
  - **Software**: Cadence
  - **Fields of application**: Physical layout and DRC

- **CMOS065**
  - **Technology**: CMOS065
  - **Design kit**: T Tanner
  - **Software**: Cadence
  - **Fields of application**: Physical layout and DRC

- **BiCMOS55**
  - **Technology**: BiCMOS55
  - **Design kit**: T Tanner
  - **Software**: Cadence
  - **Fields of application**: Physical layout and DRC

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- **Teledyne Dalsa**
  - **Technology**: MIDIS, MK1551
  - **Design kit**: Coventor
  - **Software**: Cadence
  - **Fields of application**: Physical layout, design entry and multi-physics analysis

- **Memscap**
  - **Technology**: MUMPs
  - **Design kit**: T Tanner
  - **Software**: Cadence
  - **Fields of application**: Physical layout and DRC
Design kits support

CMP staff members provide technical support on the design-kit. Several support levels are addressed (e.g. installation issues, use of the technology files or libraries, design-flow, etc.) To request support, users can create tickets through CMP Support Center. This new interface between CMP and design-kits users, dedicated to technical support, is available on CMP web site: https://cmp.imag.fr/support. More information on the corresponding flyer. CMP chose this way to treat technical issues because it will improve the process of requests / answers.

The interface has the following features:

- Intuitive → 2 tabs: open a new ticket and tickets summary (you can check the tickets details when selecting one subject)
- Easy and fast → fill in the form, describe the issue and add screen snapshots, testcases, log files...
- Effective → track the tickets and see all the elements about each issue on the same ticket thread
- Flexible → open as many tickets as encountered issues and reopen the tickets if needed

The procedure to connect to CMP Support Center is described below:

☞ For new users: After having filled in the NDA and VLAN security form, CMP send the procedure to download the Design Kit and documentation. You receive a login and a password.
☞ If you already worked with CMP (and don’t have yet login and password): Please send a mail to cmp-support@imag.fr with a subject like “New request of login and password for CMP Support Center”. CMP will send login and password for all future requests.

Use these login and password to connect you to CMP support center and submit technical issues and questions.

CMP will first try to find the answer and solution when already known. If not, CMP try to reproduce the issue, try to investigate and solve it. If no solution exists at CMP, then the problem is reported to the provider (foundry, CAD tool vendor) who will help to provide the solution.

Tutorials, documentation and user’s guides exist inside the design-kits and design platforms. Some are coming from providers and others are made by CMP. These materials are useful for starting using the design-kits, showing the different design-flow steps and correct use of tech-files and libraries.