How to make Airbus engineers' life better with Eclipse ?!

EclipseCon France 2014
Alain BERNARD - AIRBUS
Follow our team!

The aircraft engineer: he wants to make planes, not software!

The Eclipse enthusiast (may be the same guy as the speaker)
First step: prepare a new era
I dream of a unified workbench...

Do you know Eclipse?
I have too many tools to manage!

Do you know "Tools On Demand"?
I’m a young engineer, I’m lost in my new job!

RTFM!

**The labels tab**

This tab displays all data contained in the labels of the A/C file. The view is divided into two parts: the left part shows the list of labels with their type. The right part displays properties of each label.

On top of the left part, a text field allows you to filter the displayed labels using the name of the label you are looking for and the list will be automatically filtered at the right of the field to reset the filter.

A/C file labels

Click on an item to show more details

<table>
<thead>
<tr>
<th>Label</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>KPNR</td>
<td>RESABRED</td>
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<tr>
<td>KPRB</td>
<td>RESABCD</td>
</tr>
<tr>
<td>KPRB</td>
<td>RESABCD</td>
</tr>
</tbody>
</table>

The right part displays the content of the label. Common to all labels types, line breaking code are displayed on top.

<table>
<thead>
<tr>
<th>Label</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>KCCGLMRF</td>
<td>RESABCD</td>
</tr>
</tbody>
</table>
I learnt the thousands of physical parameters by heart!

You could also try the content assist
Where’s my Excel?!  
Feel the power of the NatTable...

<table>
<thead>
<tr>
<th>TOW &gt; DISA</th>
<th>TOPT filename</th>
<th>TFP filename</th>
<th>User inputs</th>
<th>Calculation status</th>
</tr>
</thead>
<tbody>
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<td>CAS @ 1500ft</td>
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<td>1</td>
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<td>3</td>
<td><code>/projects/...</code>/projects/MTS-P...</td>
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<td>275.0</td>
<td>185000.0</td>
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</tr>
</tbody>
</table>
...and its integration!
Second step: convince
Introducing a new character...

The chief! He owns the budget so the power!

Note: not only the chief should be convinced
About development costs?

Less than if we do everything ourselves!

Some Eclipse projects metrics...
**But it is Open Source ?!**

**Enjoy the Foundation’s IP strategy!**

- EPL grants the right to build commercial apps on top of Eclipse

- Eclipse Foundation grants IP cleanness thanks to Eclipse IP process

- We can contribute to Eclipse project(s) and keep our added-value code
Will it still exist in 40 years?

Do you know PolarSys?

PolarSys
Open Source Tools for Embedded Systems

Very Long Term Support

Open Innovation between partners

Improved Interoperability
Can I split my editor?

Just wait for June 25th

Luna powered!
About learning curve?

I have the same question

Learning Eclipse can be difficult for developers... and users

Commercial trainings are made for e4 but Eclipse IDE plugins are still 3.X style!

Using Eclipse outside software development team requires user’s trainings
Third step: prepare the future
We have to be more efficient!

Ok let’s stop coding manually

- Quick code generation
  - Very efficient tooling (edit, compare, ...)

- Difficult to master

How to choose between all EMF-based frameworks?
A scientist!

I have a dream...

Make it a reality!
Numerical Python libraries are widely used and powerful

Jython isn’t able to run them

How to find an easy but good way to exchange data?
NatTable is cool, but about plots?

Glups again...

Needs for plotting tools are generics but no project exists to answer this problem

Re-developing a plotting workbench is too expensive

Solution can be partnership with IWG members
Conclusion: Eclipse for design office
Any question?
Credentials

CrystalXP: [http://tux.crystalxp.net/fr.id.13668-tuxitecte.html](http://tux.crystalxp.net/fr.id.13668-tuxitecte.html)

CrystalXP: [http://tux.crystalxp.net/fr.id.12237-tux-pilot.html](http://tux.crystalxp.net/fr.id.12237-tux-pilot.html)

CrystalXP: [http://tux.crystalxp.net/fr.id.1808-einstein-tux.html](http://tux.crystalxp.net/fr.id.1808-einstein-tux.html)

CrystalXP: [http://tux.crystalxp.net/fr.id.2020-businesstux.html](http://tux.crystalxp.net/fr.id.2020-businesstux.html)

CrystalXP: [http://tux.crystalxp.net/fr.id.17369-tux-bricoleur.html](http://tux.crystalxp.net/fr.id.17369-tux-bricoleur.html)

Airbus concept plane, A380 FAL and Emirates: © Airbus, [www.airbus.com](http://www.airbus.com)