

# CAX - IF

## Status and Progress

A faint, light-colored globe is visible in the background, centered behind the main title.

**CAX**  
Implementor Forum

**Dr. Max Ungerer**  
**CAX Implementor Forum**

**E-Mail:** [ungerer@prostep.de](mailto:ungerer@prostep.de)  
**WWW:** <http://www.cax-if.de/>  
<http://www.cax-if.org/>

## Round 9J

November 2001 - March 2002

# CAX-IF

## Round 9J Schedule

Date	Action
December 17 <sup>th</sup> , 2001	Test Suite available / 1 <sup>st</sup> CAX Implementor Forum conference call
January 14 <sup>th</sup> , 2002	Initial STEP files and native stats due
January 28 <sup>th</sup>	STEP files and native stats frozen
February 11 <sup>th</sup>	Target stats due
February 15 <sup>th</sup>	Production Models released
February 20 <sup>th</sup>	2 <sup>nd</sup> conference call
February 25 <sup>th</sup>	Target stats frozen
March 4 <sup>th</sup>	Pre-release of final stats / 3 <sup>rd</sup> conference call
March 19 <sup>th</sup>	Review meeting for test round
March 20 <sup>th</sup> – 21 <sup>st</sup>	CAX Implementor Forum meeting, Asheville, NC

## Round 9J Scope (ended March 2002)

- AP214 'IS' migration test case
- “New” ProSTEP benchmark model
- Coloring of 3D text, surfaces and curves
- New and problematic production models
- Post-process AP209 files
- Review Construction History schema & guidelines
- CAD/PDM integration

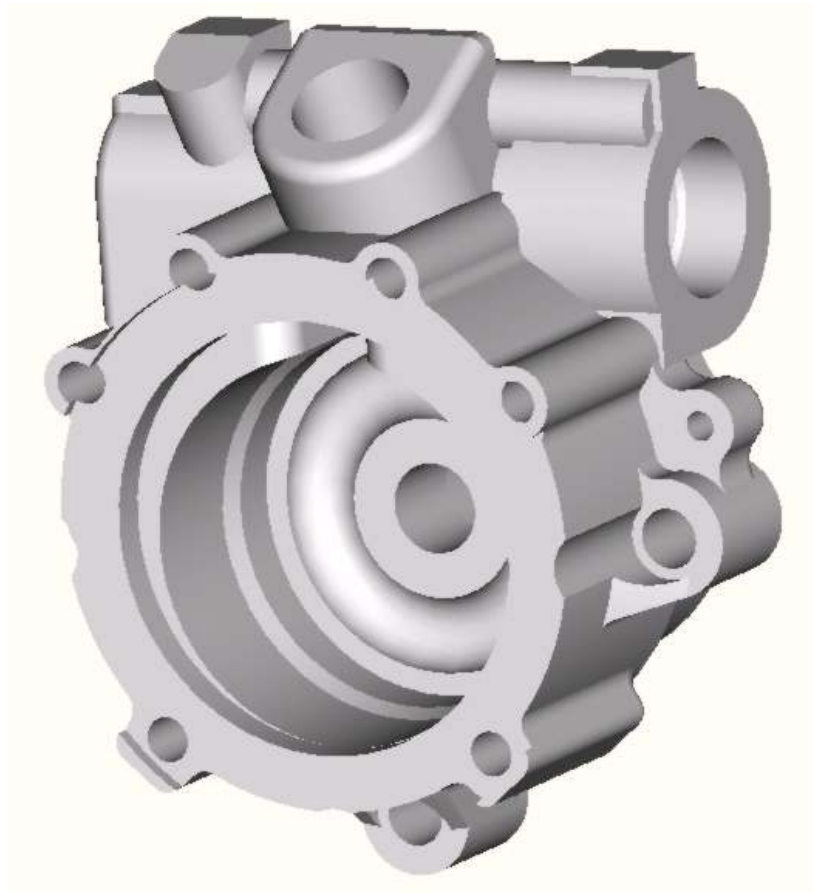
# CAX-IF

## Who's doing what in Round 9J

Vendor	Validation Properties	Production Models	Benchmark Model B2	Coloring Surfaces & Curves	AP 214 dis to is migration	Post Processing AP 210 files	Post Processing AP 209 files	Attending March Meeting
Alibre		Y	Y					
AutoDesk - MDT -	Y	Y	Y					
AutoDesk - INVENTOR -		Y	Y					
Alias		Y	Y		Y	Y		
Bentley								Y
Dassault		Y	Y	Y	Y			Y
I-DEAS		Y	Y	Y	Y	Y	Y	Y
OpenCascade	Y	Y	Y	Y	Y	Y	Y	Y
PRO-E	Y	Y	Y	Y				Y
Spatial		Y						
STEPTools		Y	Y		Y	Y	Y	Y
Theorem Sol. - UG -		Y	Y	Y	Y	Y	Y	Y
T-Systems		Y	Y	Y	Y			
UG		Y	Y	Y	Y	Y	Y	

# CAX-IF

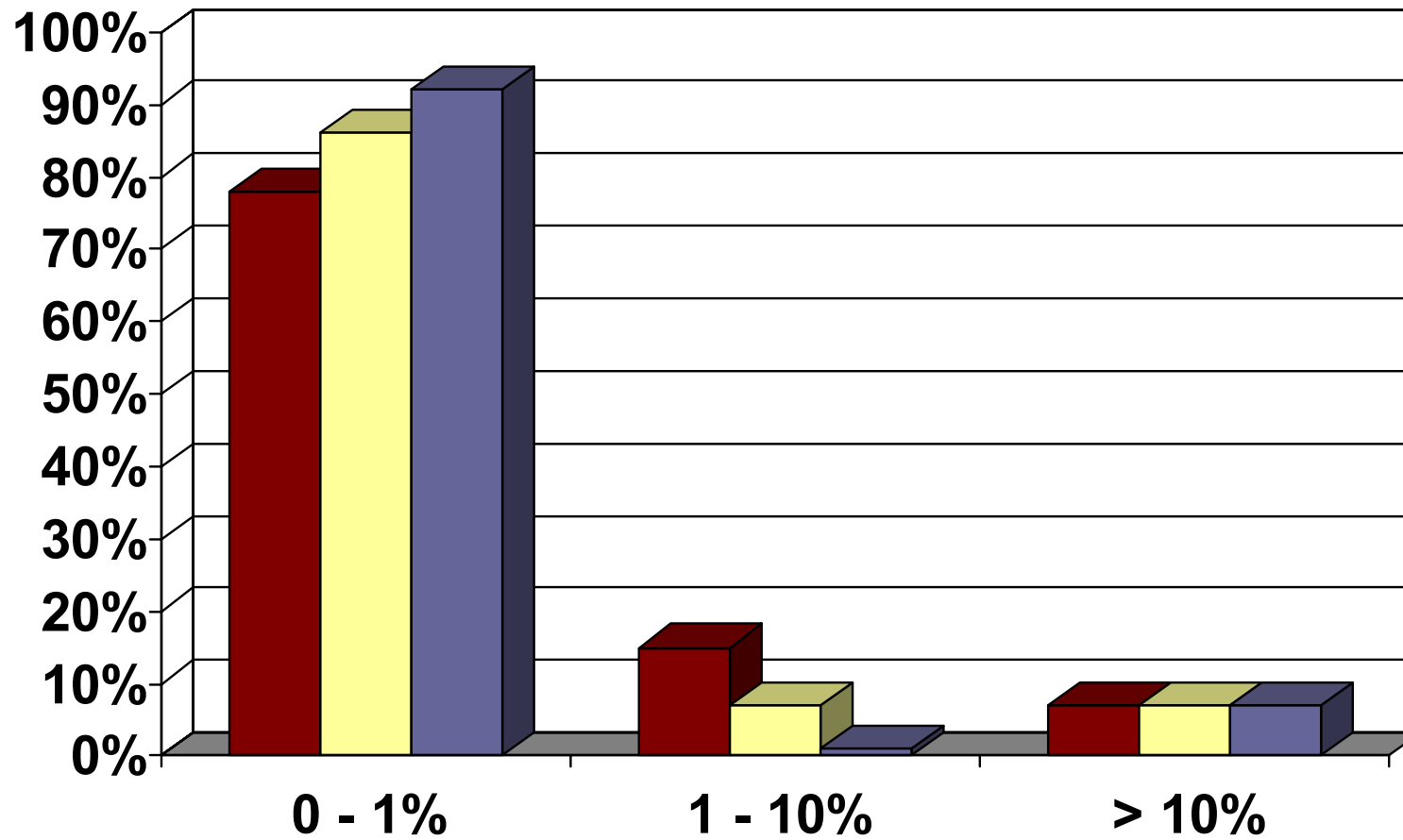
## Round 9J



**B2**

## ProSTEP 7<sup>th</sup> Benchmark Model

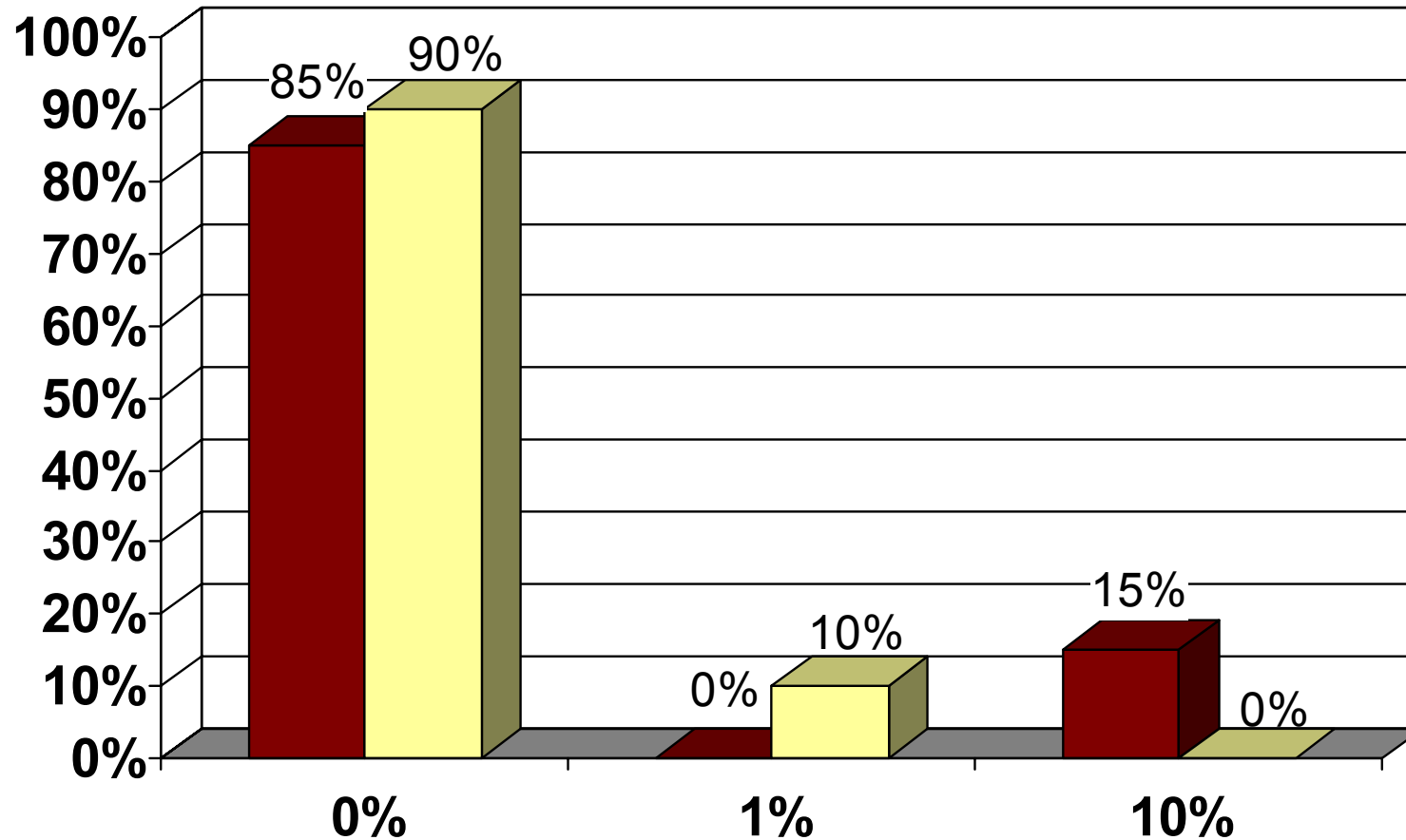
## Round 9J - B2 model results



119 exchanges

■ Volume ■ Area ■ Centroid

## ProSTEP Benchmark Model Results: 7<sup>th</sup> Benchmark vs. CAX-IF Round 9J



















































*comparison based  
on 48 exchanges*

**Benchmark** **CAX-IF R9J**



## ProSTEP Benchmark Model Results: 7<sup>th</sup> Benchmark vs. CAX-IF Round 9J

	1	2	3	4	5	6	7
1							
2							
3							
4							
5							
6							
7							

### Legend:



No change –  
successful exchange



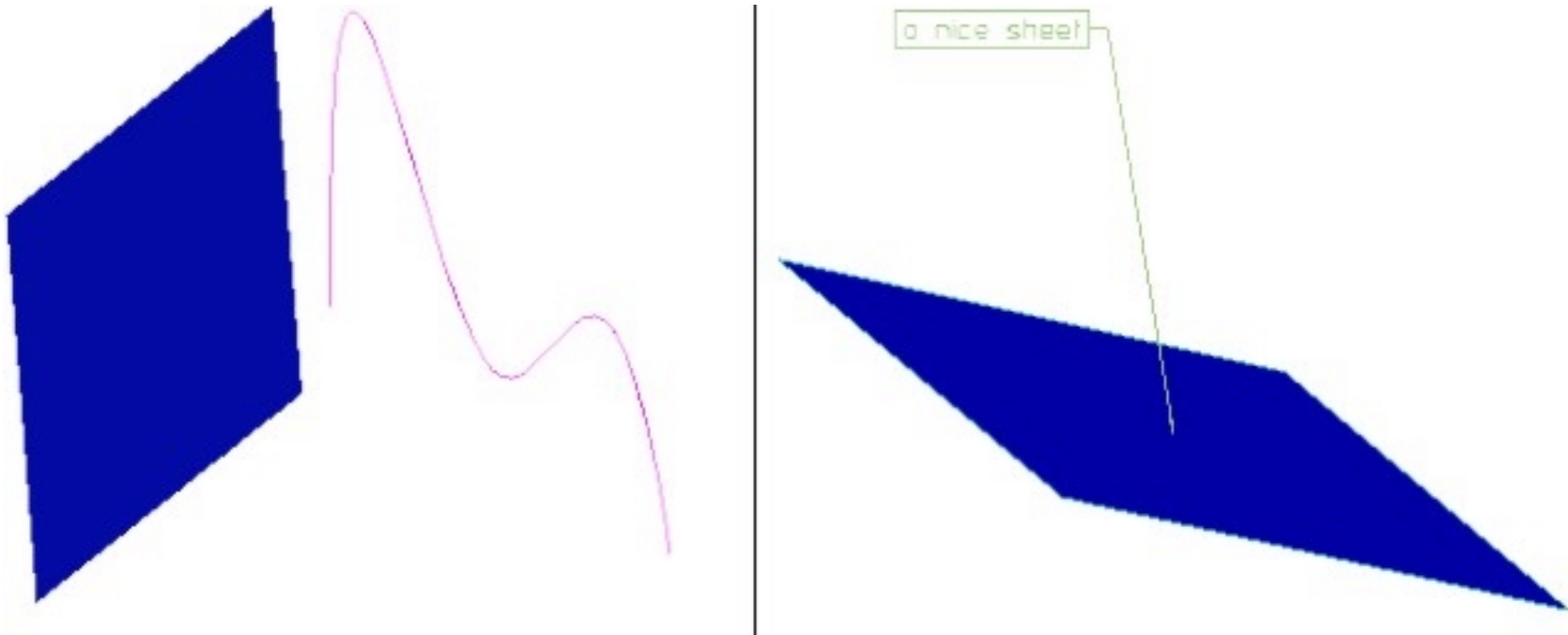
Improvement from  
“red” to “green”



Decrease from  
“green” to “yellow”

# CAX-IF

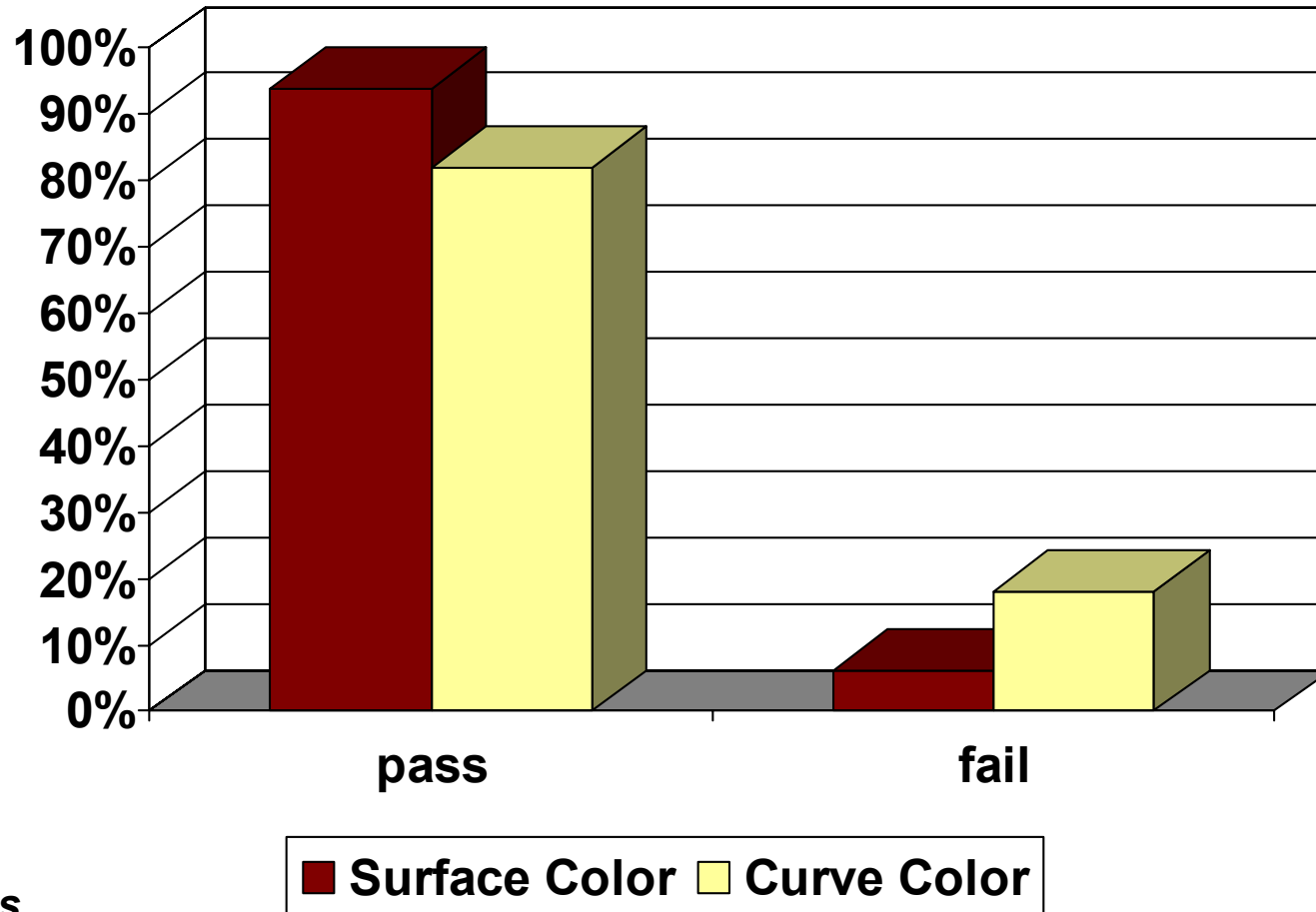
## Round 9J



**C2**

## Surface and Curve Colour 3D Text Annotation

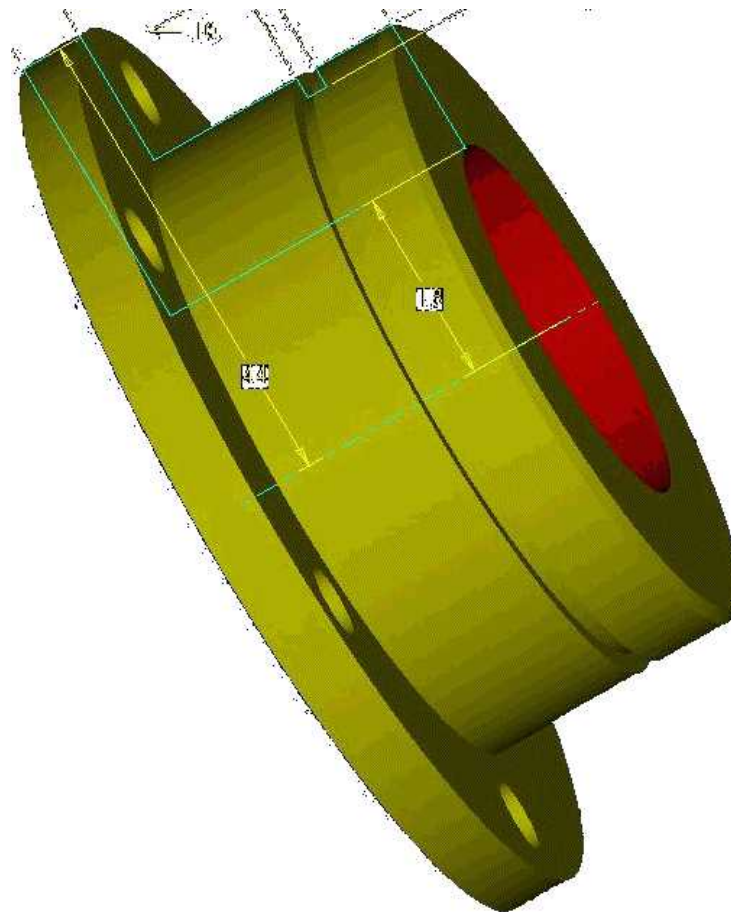
## Round 9J – C2 model results



For 3D Text, there were only two exchanges,  
of which one passed and one failed.

# CAX-IF

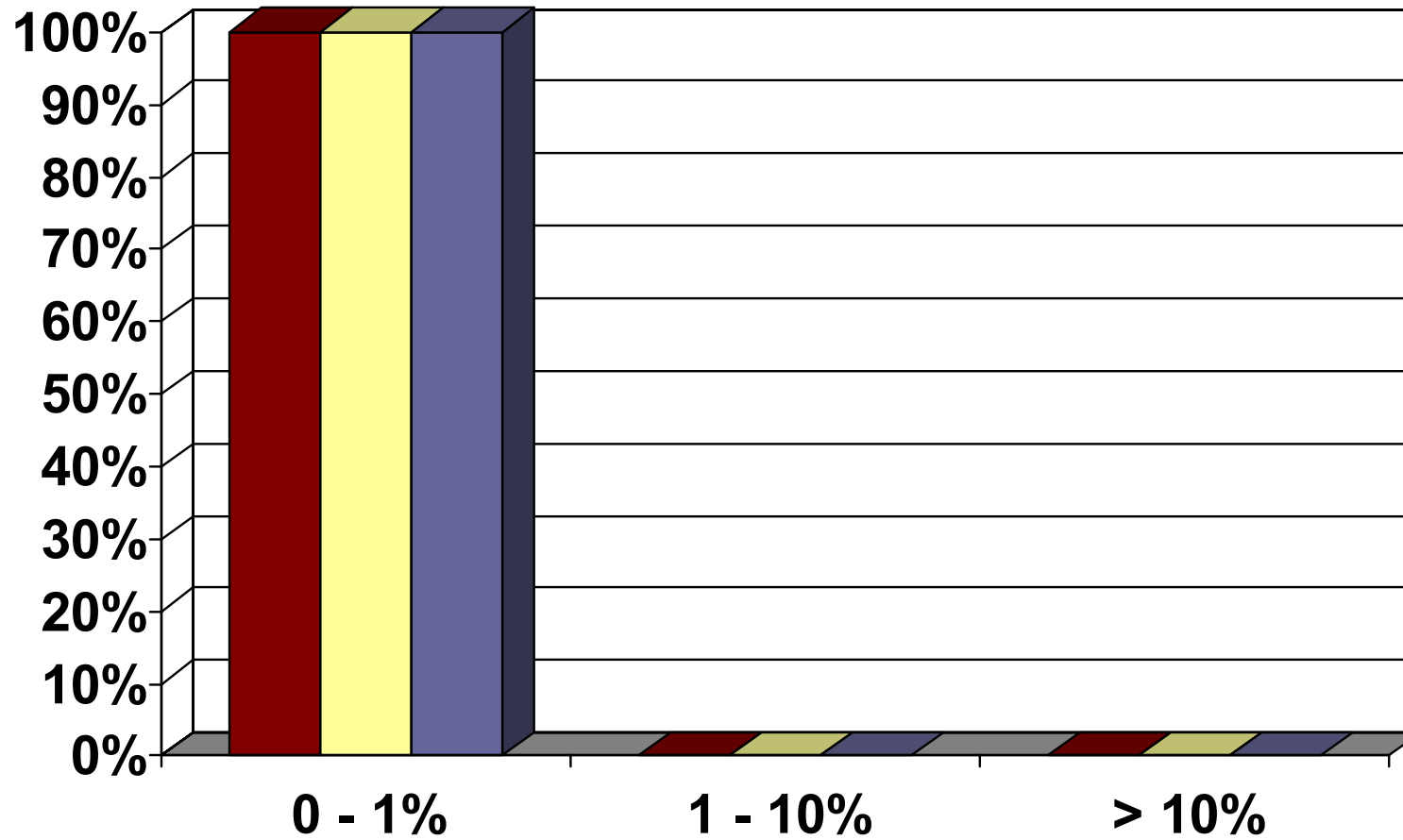
## Round 9J



**IO1**

**AP214 DIS / IS Interoperability**

## Round 9J - IO1 model results

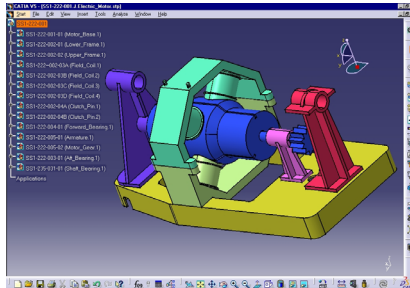


40 exchanges

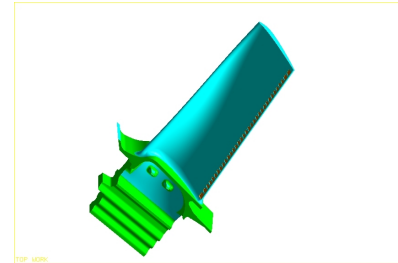
■ Volume ■ Area ■ Centroid

# CAX-IF

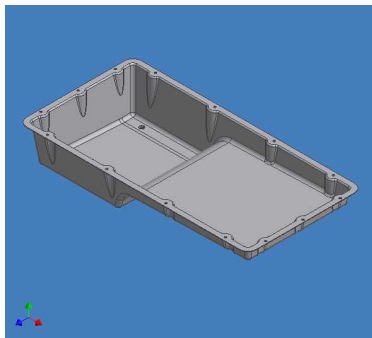
## Round 9J



**Electric motor**  
CT - New model



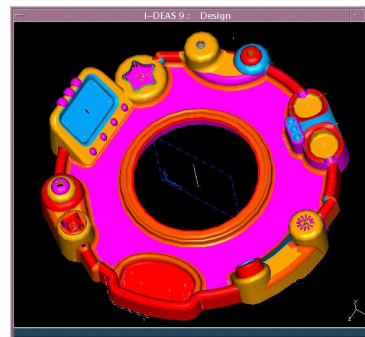
**Turbine blade**  
UG - New model



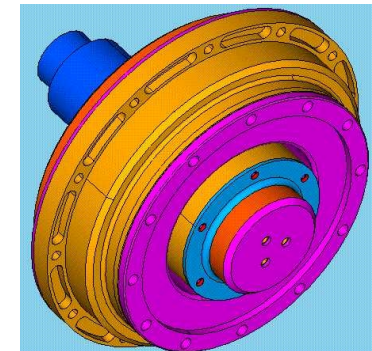
**Oil pan**  
IN - Same model,  
new STEP file

## PM7

### Production Models

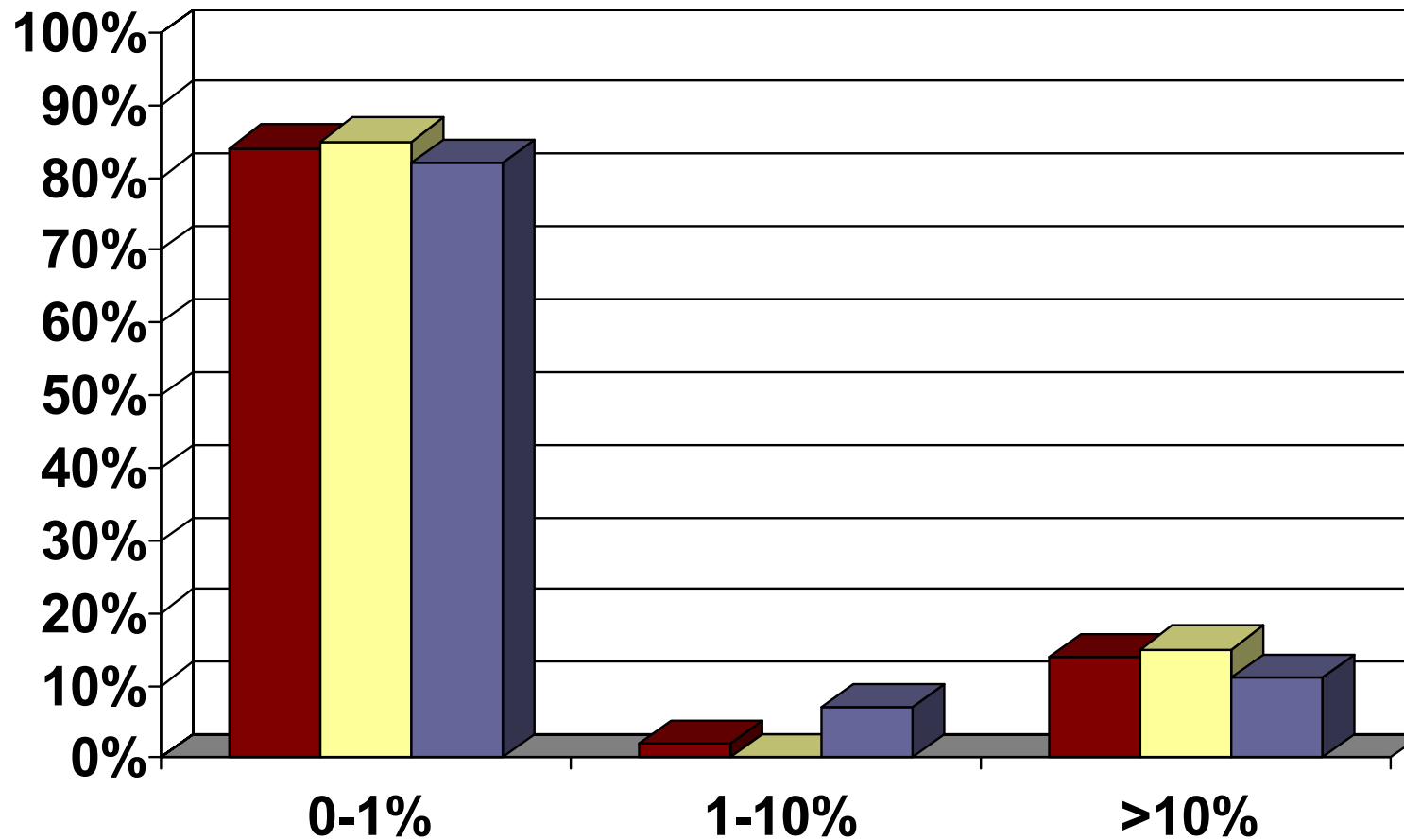


**Ed's activity tray**  
ID - New model



**Wheel thingy**  
TS - Same model,  
same STEP file

# Round 9J - Production Models overall results

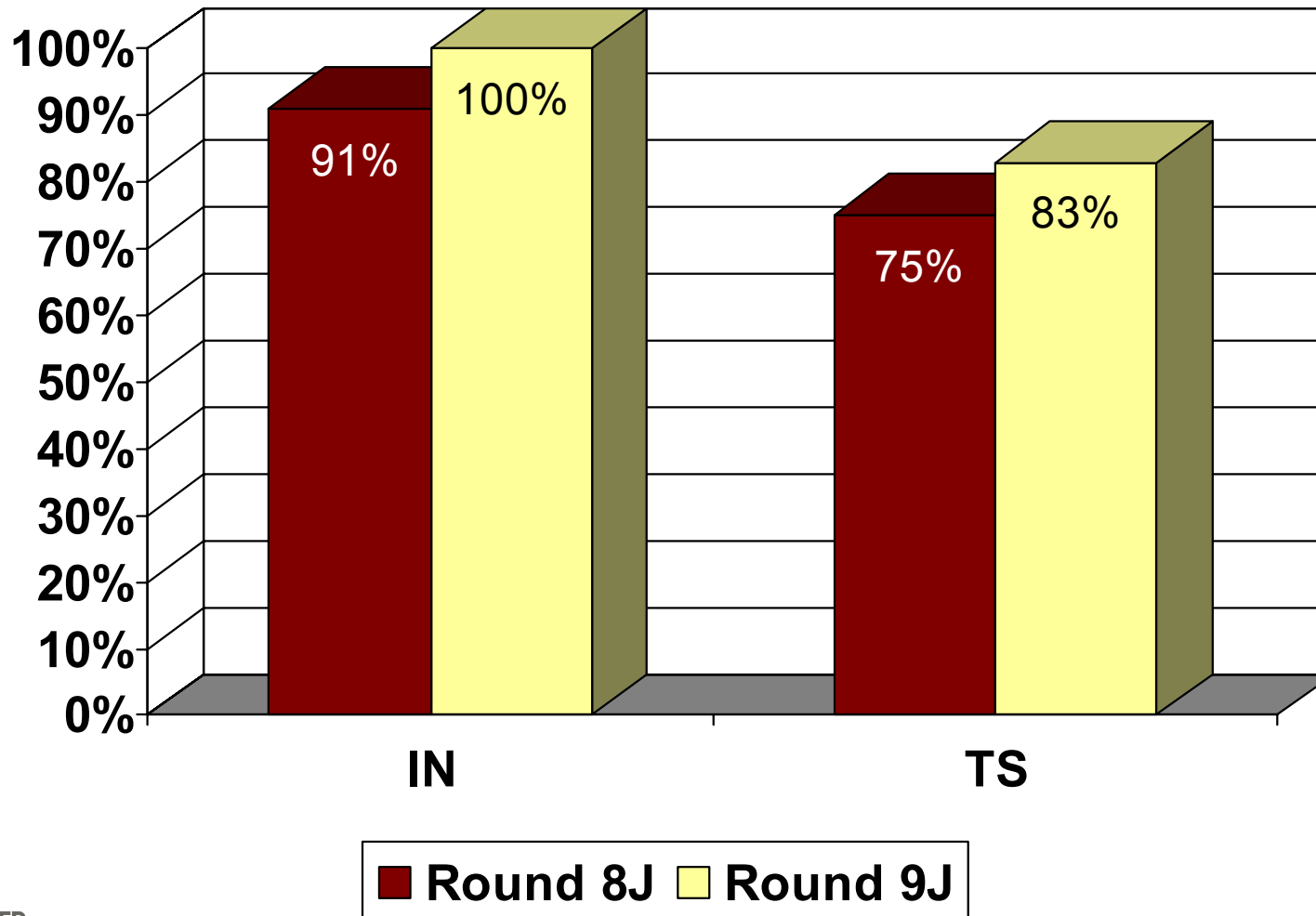


57 exchanges

■ Volume ■ Area ■ Centroid

## Production Model result comparison: Round 8J vs. Round 9J

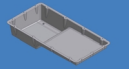
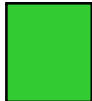
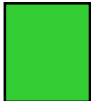
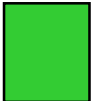





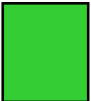


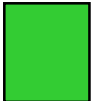
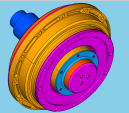


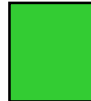





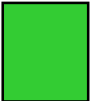
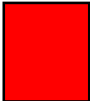


Based on common vendors and models in both rounds





# Production Model result comparison: Round 8J vs. Round 9J

Based on common vendors and models in both rounds

	1	2	3	4	5	6	7	8	9	10	11	12
												
												

**Legend:**



No change – successful (“green”) exchange

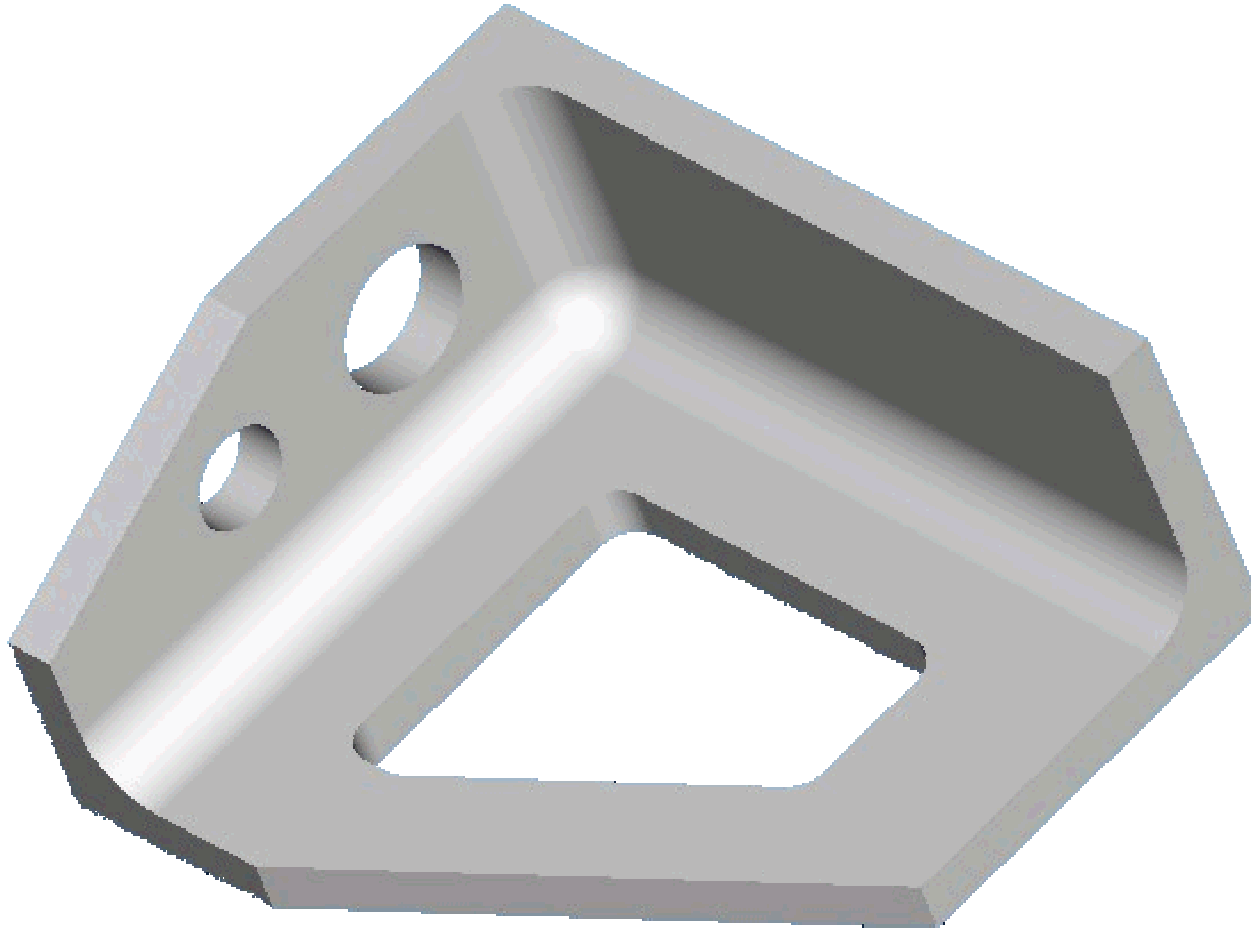


No change – failed (“red”) exchange

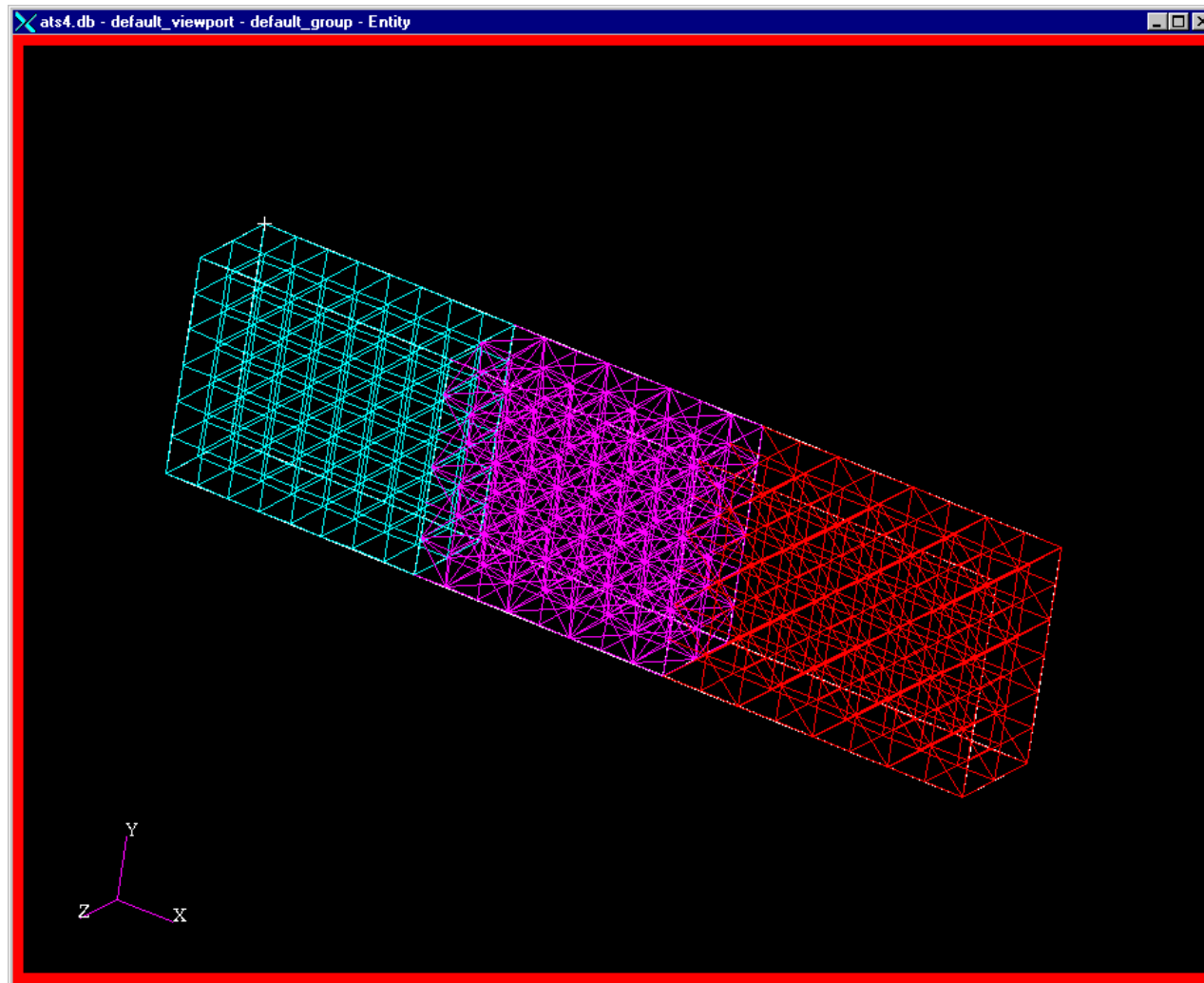


Improvement from  
“red” to “green”

# AP209 Test File from CATIA V4 out of Theorem CADverter



# AP209 Test File from PATRAN



## AP209 Test results summary

- Scope of the test was to extract the geometry information contained in the file
- This succeeded with one file and failed with the other
- During discussion with EA team, issues regarding the product structure (design shape vs. analysis shape) have been identified
- Interest in continued testing

## Round 10J

March – October 2002

## Round 10J scope

- **Re-test ProSTEP 7<sup>th</sup> Benchmark model** (as AP214-IS)
- **Test new and problematic production models**
- **Post-process AP209 / AP210 / PDM-IF files**
- **Start Construction History testing**
  
- **Set up new Recommended Practices for:**
  - *Instance coloring*
  - *Multiple solids*
  
- **Run tests using new CAX-IF testing environment**

# CAX-IF

## Round 10J Schedule

Date	Action
May 21	Test Suite available / 1 <sup>st</sup> CAX Implementor Forum conference call
July 1	Initial STEP files and native stats due
July 22	STEP files and native stats frozen
July (TBD)	Production Models released
August 19	Target stats due, 2 <sup>nd</sup> conference call
September 5	Target stats frozen
September 19	Pre-release of final stats / 3 <sup>rd</sup> conference call
October 8	Review meeting for test round
October 9 - 10	CAX Implementor Forum meeting, Darmstadt, Germany

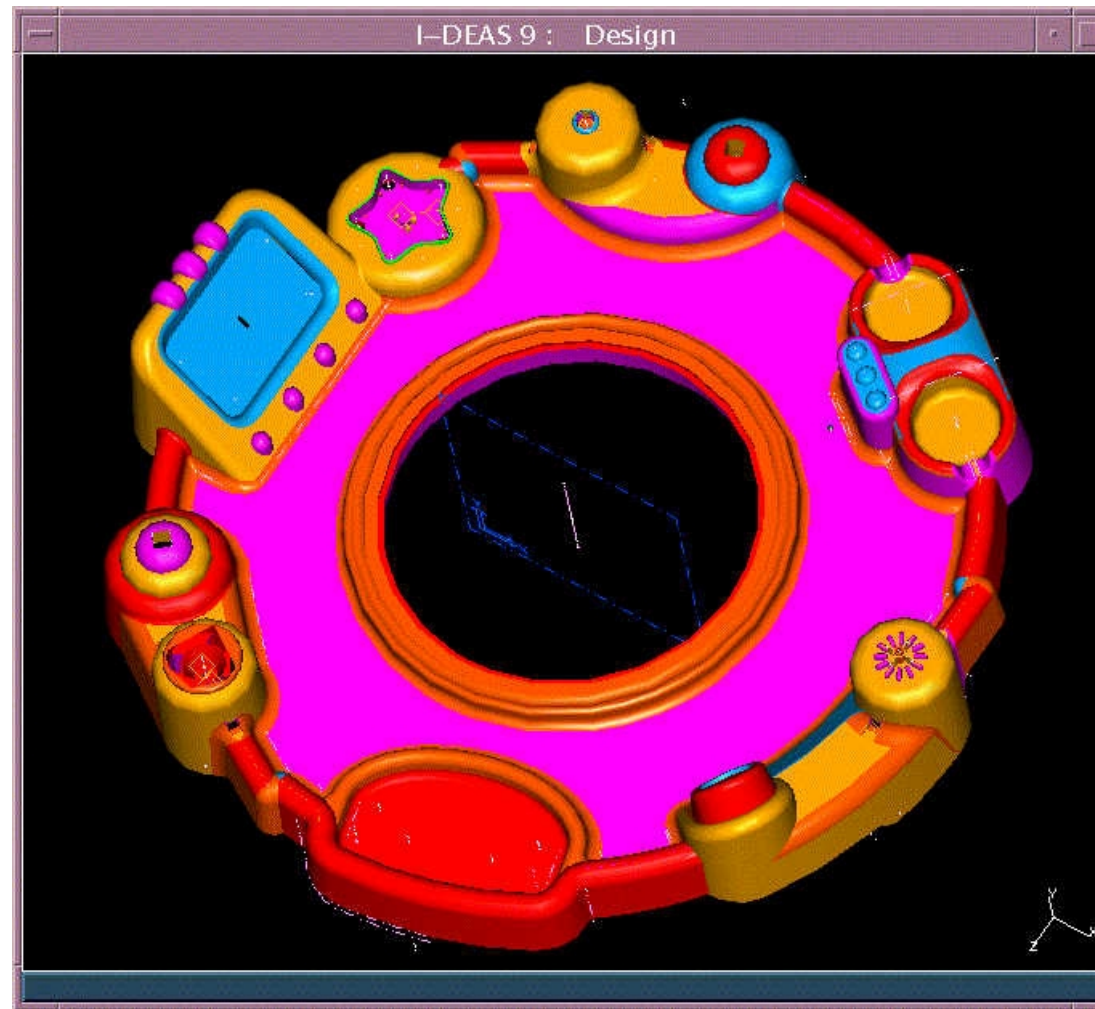
# CAX-IF

## Who's doing what in Round10J?

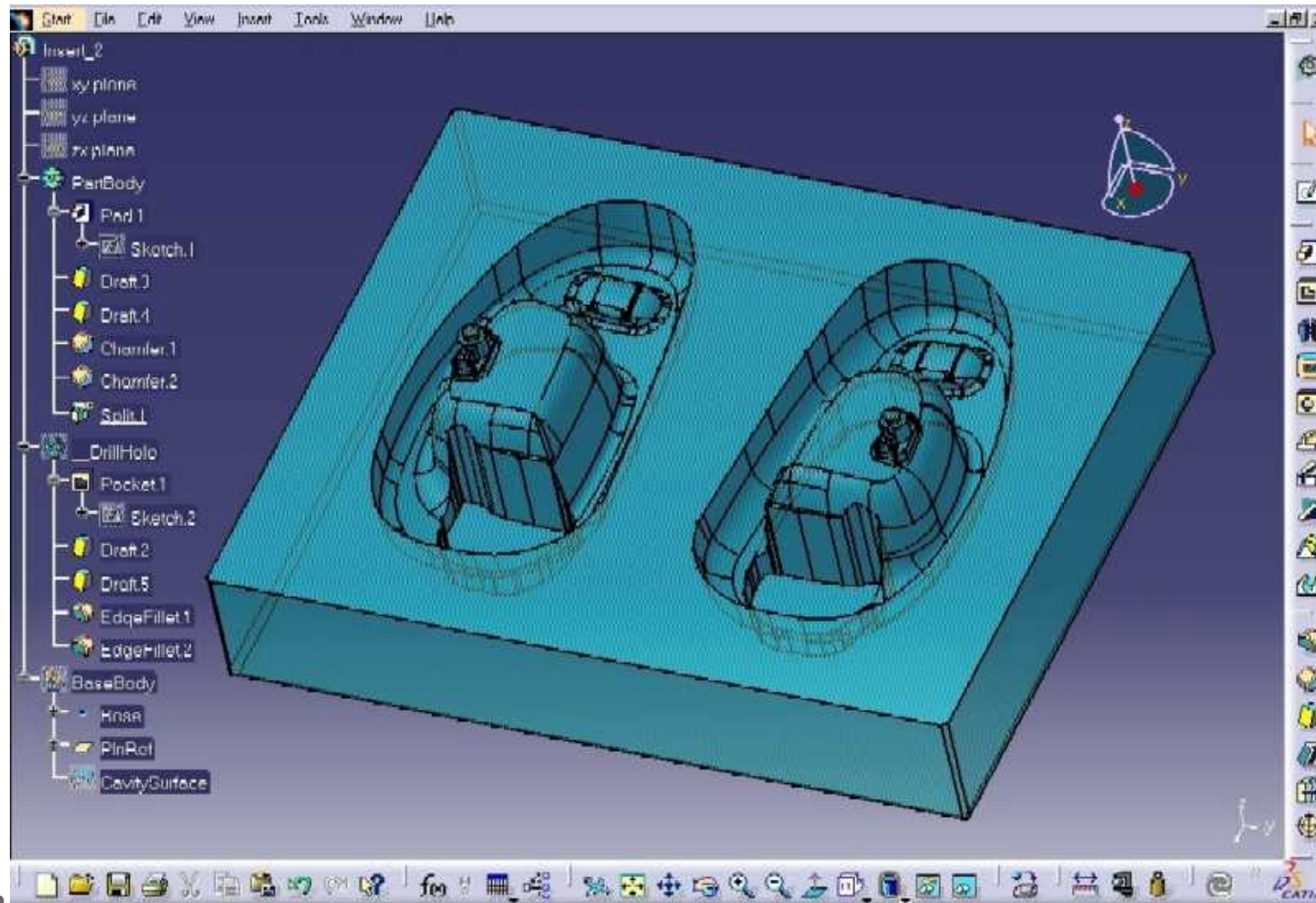
Vendor	Construction History CH1	Production Models PM8	Benchmark Model B2	CAD/PDM Integration	AP210	AP 209
AutoDesk -AutoCAD-		Y	Y			
AutoDesk -Inventor-		Y	Y			
Bentley Microstation		Y	Y		?	Y
Catia		Y	Y	?	Y	Y
I-DEAS	Y	Y	Y	?	Y	Y
LK Soft		Y	Y	Y	Y	
OpenCascade		Y	Y	Y	Y	Y
Pro/E		Y	Y	?	Y	Y
SolidDesigner		Y	Y			
STEPTools	Y	Y	Y		Y	Y
Theorem Sol.	Y	Y	Y	Y		Y
T-systems		Y	Y	Y		
UG	Y	Y	Y		Y	Y



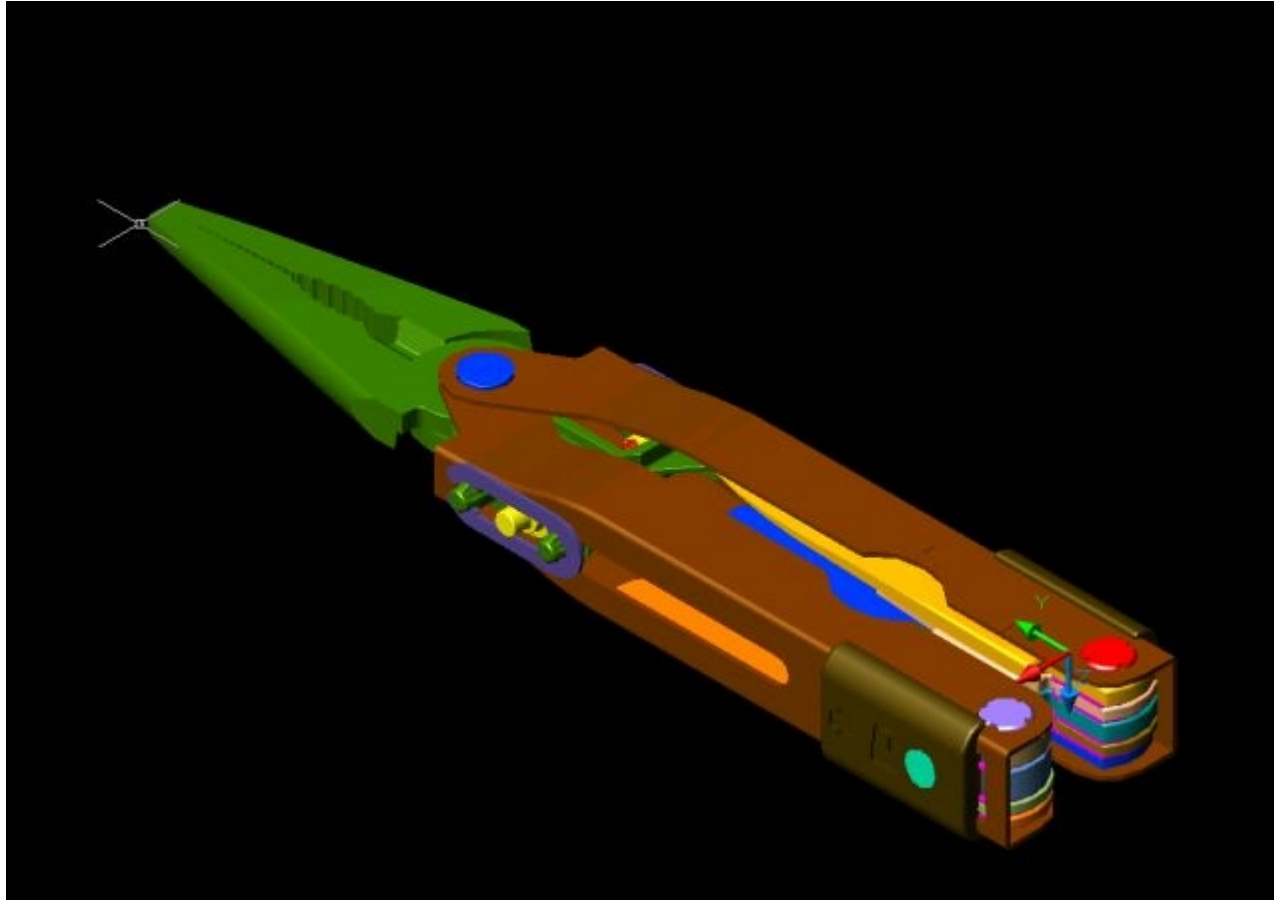
# R10J Production Model Test Case: Child activity tray (I-DEAS)



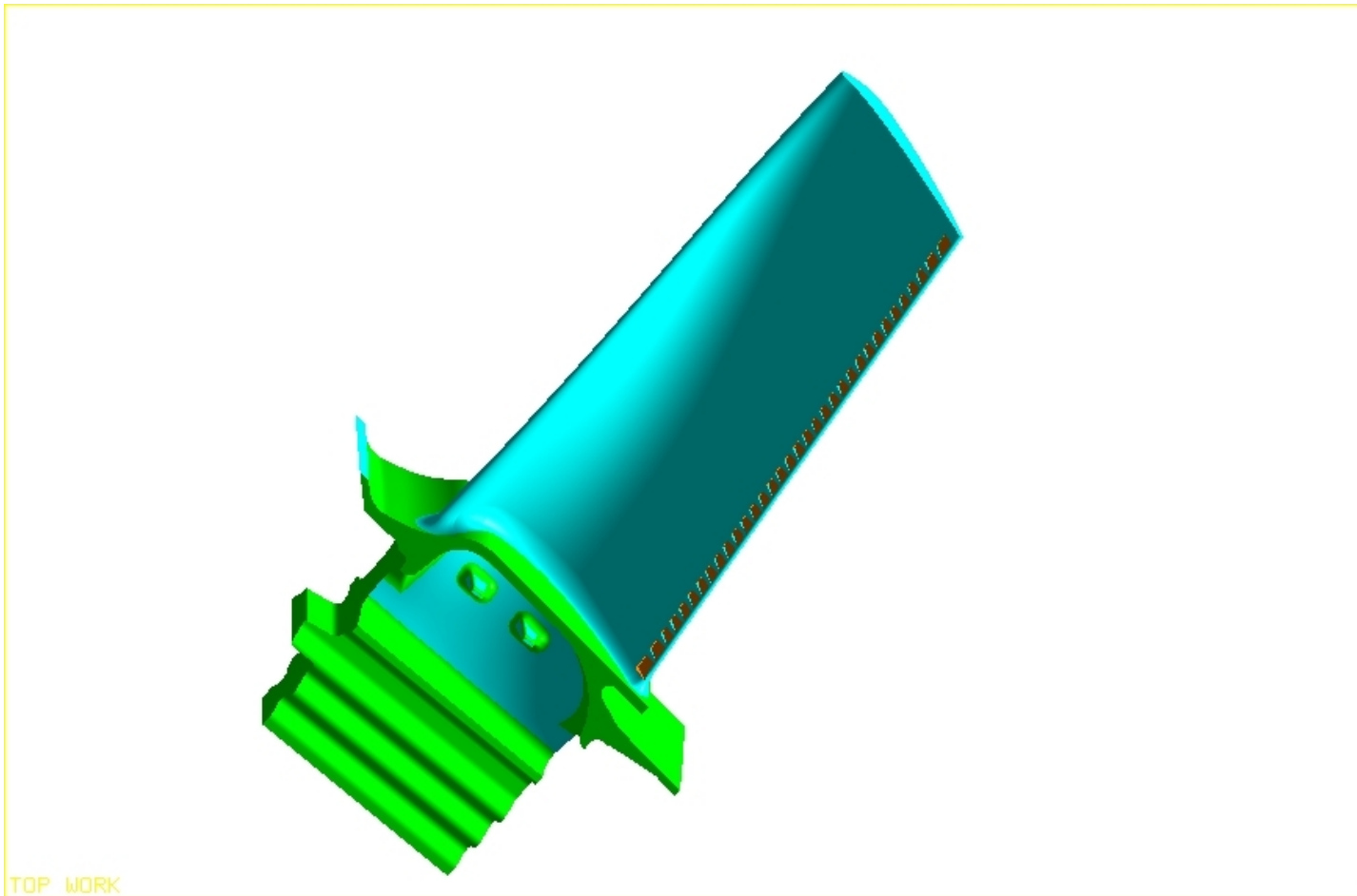
# R10J Production Model Test Case: Mold Tooling (CATIA V5)



# R10J Production Model Test Case: Multi Tool (Mechanical Desktop)



# R10J Production Model Test Case: Turbine blade (Unigraphics)





**Project Leader:**

Oliver Guntermann

Phil Rosche

**User Representative:**

Wilhelm Kerschbaum  
(BMW)

Bill Marler  
(Pratt & Whitney)

**Techn. Contact:**

Jochen Boy

Staci Shatsoff

# CAX-IF

## Future plans & activities

- **Further CAD/TDM/PDM Integration**
  - **Document Management**
- **Start testing of Construction History and Parametric Design**
- **Joint testcases with AP209 and AP210 groups**
- **New Recommended Practices are under development for:**
  - **Instance coloring in an assembly**
  - **Multiple solids**