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Competence Based Type Training for maintenance Today & Tomorrow

Content

- 1** **Competence Assessment**
- 2** **Competence Evolution**
- 3** **Learner Profile**
- 4** **Conclusion**

Content

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Competence Assessment

- ◆ The objective of training is to gain the required competences in performing safe maintenance
 - ◆ The required competences have to be assessed
 - ◆ Two kind of competences:
 - Operational competences
 - Interpersonal competences
- Knowledge
- Skills
-
- ```
graph LR; OC(Operational competences) --> K(Knowledge); OC --> S(Skills); IC(Interpersonal competences) --> OC;
```

# Competence Assessment

## Competences to be reached:

- Uses reports and indications
- Identifies Aircraft documentation
- Uses Aircraft documentation
- Performs correctly maintenance actions
- Operates complying with Environment
- Takes Systems interaction into account
- Performs Aircraft final / close-up
- Reports (establish & signs maintenance logbook)

# Competence Assessment

**Practical assessment**



**Apply**

Use, demonstrate, solve, construct..

**Understand**

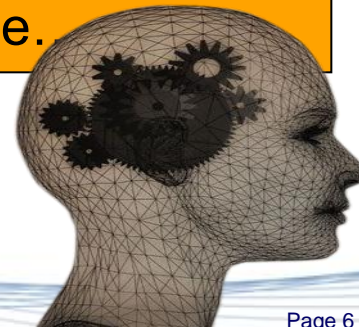
Explain, summarize, describe, illustrate ...

**Remember**

Name, state, list, define.



**Theory examination**



# Competence Assessment

## Competences to be reached:

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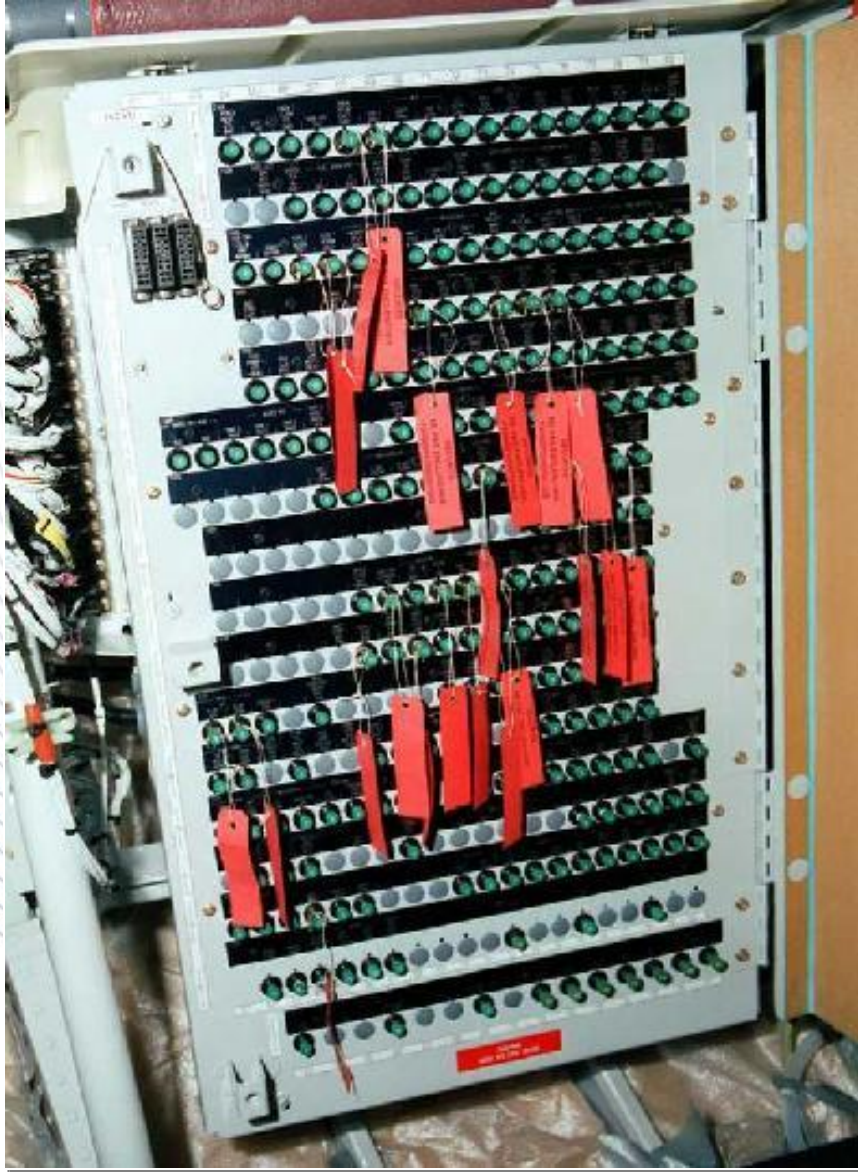
**TRANSVERSAL**

**Once the competence is mastered it is transferable to different tasks on different subjects, if the adequate knowledge is acquired**

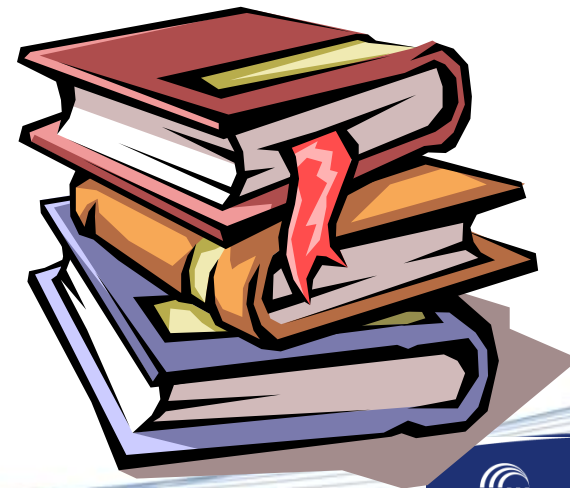
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# New HMI

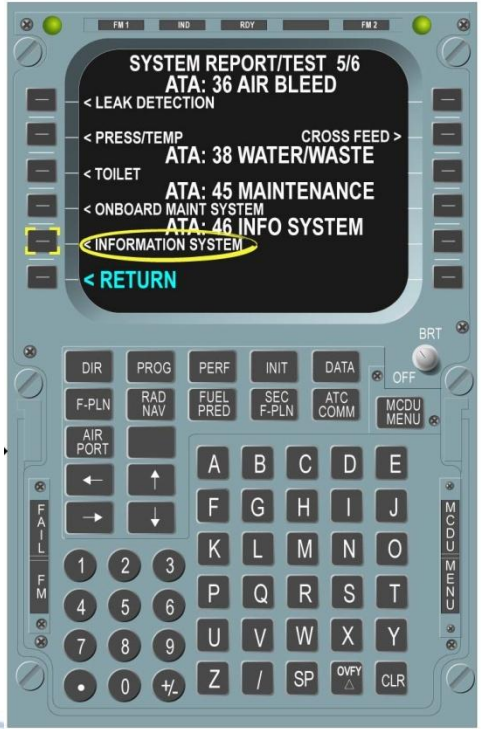
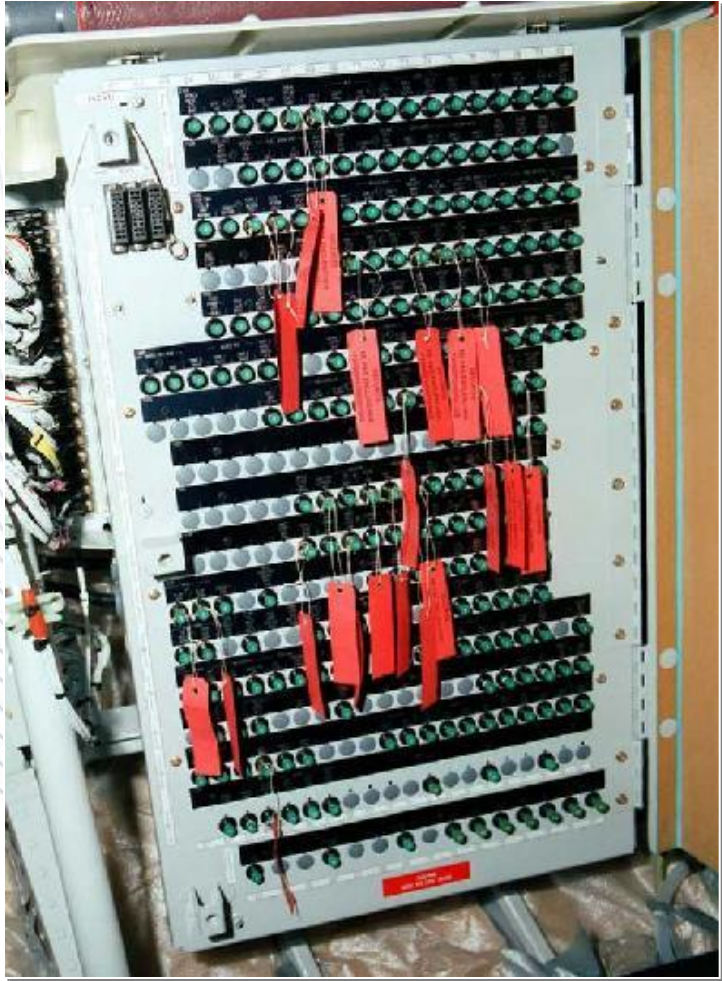


from  
physical  
tools...



# New HMI

...via  
digital  
tools...



# New HMI

Context: 15\_Cockpit effects 2/2 Tools Data Documents Utilities Sep 19, 2006 09:22:20

Tail nbr: 003 Flight nbr: SQ 001  
From: SIN At: Jan 14, 2007 20:15 0 message [X]  
To: LHR At: Jan 15, 2007 09:00 [Back] [Print] [Export] [Close]

### PDCS - Command Selection

#### Removal of the CPIOM-C

~ Open-Lock and tag this(these) circuit breaker(s): ~

| ATA | PANEL  | FUNCTIONAL DESIGNATION | FIN   | LOCATION | STATUS | TAGS |
|-----|--------|------------------------|-------|----------|--------|------|
| 42  | SEPDC2 | CPIOM-C2               | 803TF | SSPC     | CLOSED |      |

~ Complete the tag and click 'Validate' or 'Abort' ~

TAG:1

Date: Sep 26, 2005 Time: 10:13  
User: Robert  
Comments: AMM421134000803 Removal of the CPIOM-C [OK] [Cancel]

**C/B information**  
ATA/Sub-ATA : 42-11 Busbar 212PP Rating : 5A  
Three-Phased : No Location 4127XZ8 Current measurement : 8A  
Tripped channel : None

**Messages**

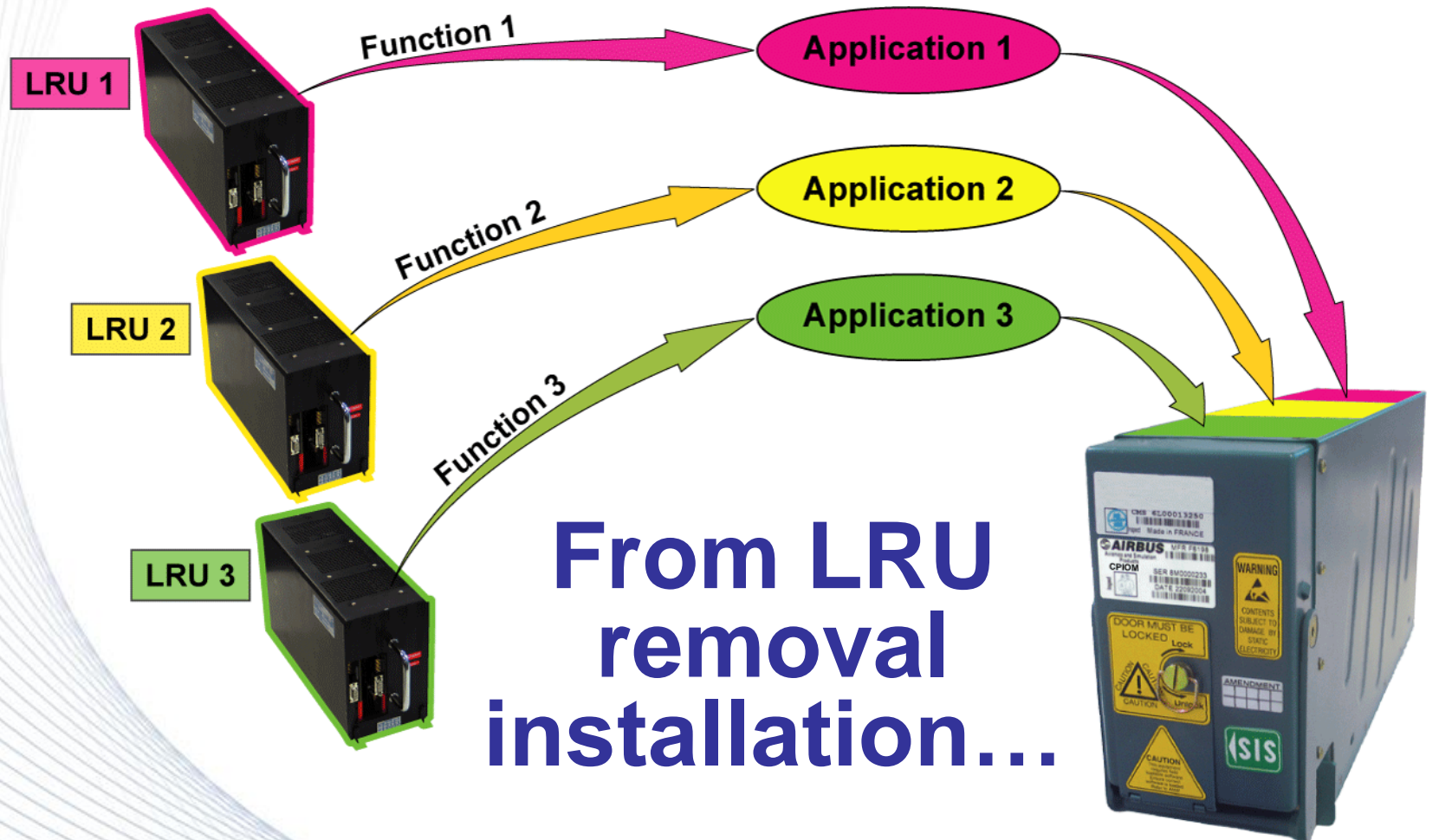
Cockpit effects 2 Airnav Power Distribution



## ...to IT world...



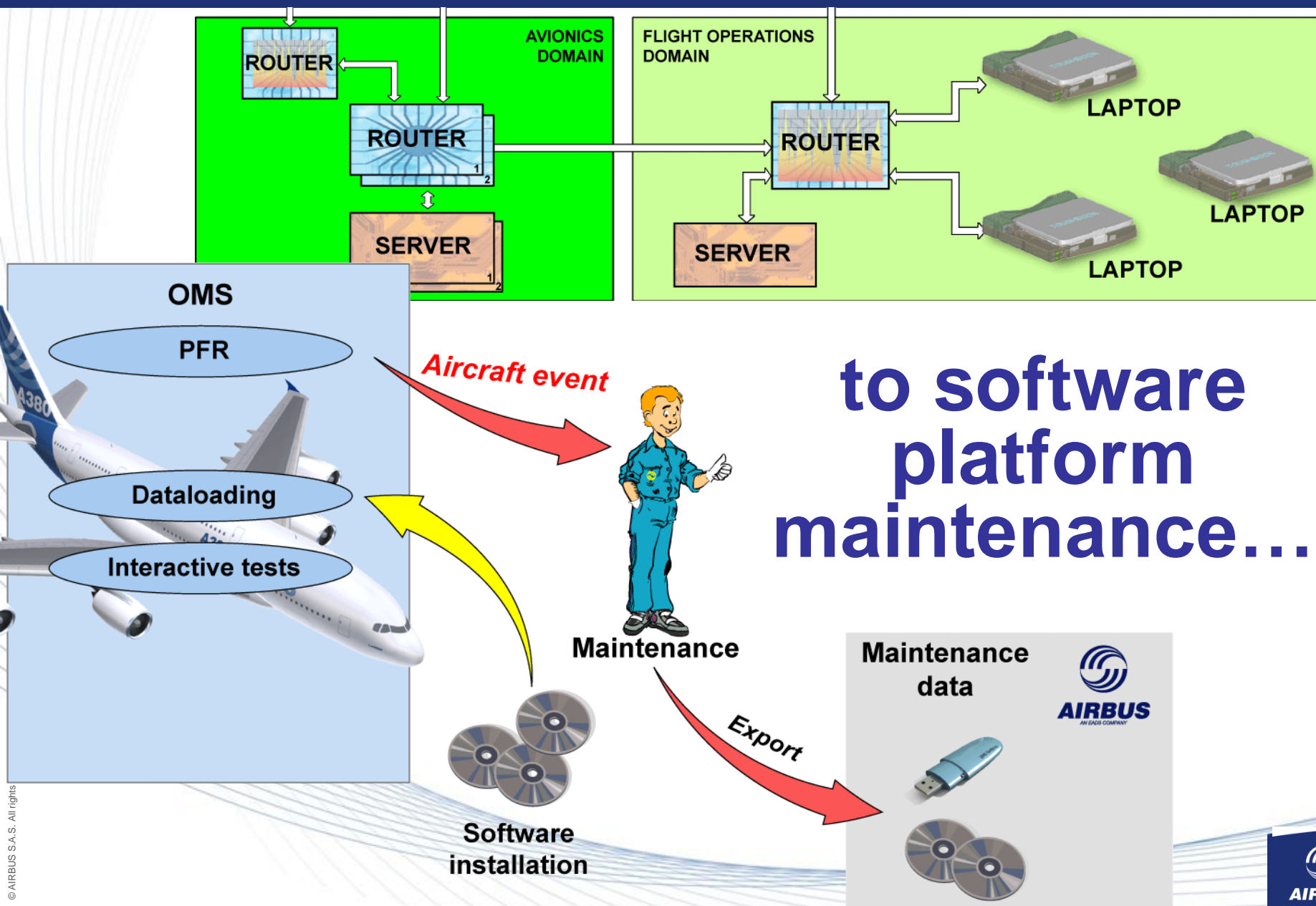
# New maintenance practices



*Conventional avionics LRUs*

**IMA**  
Integrated Modular Avionics  
**ATA42**

# New maintenance practices



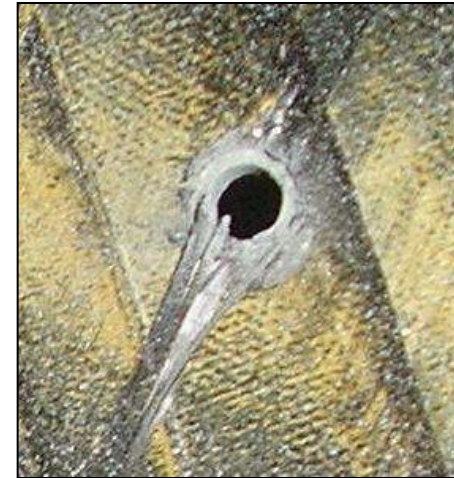
to software platform maintenance...

# New competences for structure repair

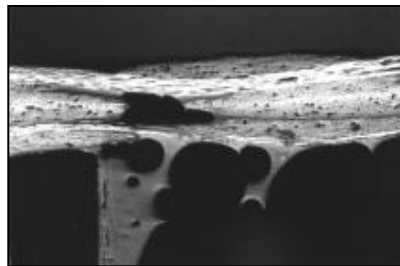
## BOLTED REPAIRS



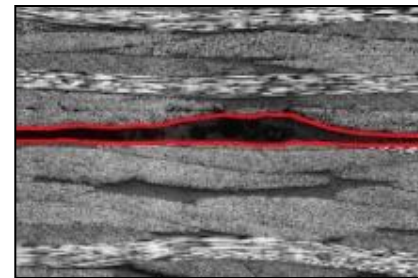
**Delaminations**



## BONDED REPAIRS



**Delamination**



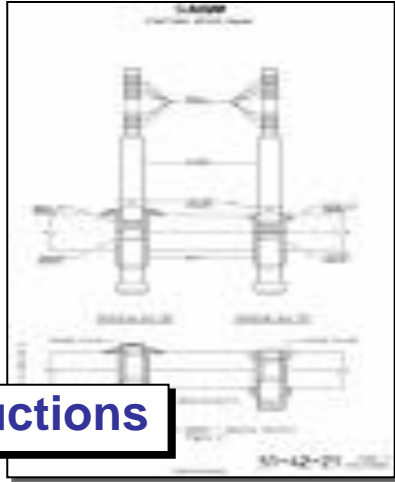
**Porosity**

**Bad Bonding**

# New competences for structure repair

*Standard Practices*

## BOLTED REPAIRS



**Instructions**



**Tools**

**Skills**



**BEST PRACTICES**

# New competences for structure repair

Standard Practices

## BONDED REPAIRS

**REPAIR SUCCESS = Quality Control (each step)**

Surface preparation



Drying



Material Storage



Repair



Curing



Instructions



Skills



**BEST PRACTICES**



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# Learner Profile



**How do we take into account the preferred learning style during maintenance type training?**



# Learner Profile

**How efficient is the traditional lecture method?**



# Learner Profile

**Technology can support advanced teaching methods**

**iGeneration learners build knowledge by discovering**



# Content

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# Conclusion

**Competences are identified**



**Training is adapted to Learner Profile**

**Competences are assessed**

**These are the main drivers of Competence Based Training for maintenance type rating**