



Technical Graphics and Multimedia: The Future for Interchange Standards

Ian Proudfoot
Technical Director

S1000D User Forum 2013 — Vienna

DATA EXCHANGE CHALLENGES

- » What are interchange standards?
- » How does S1000D use interchange standards?
- » CGM: safe exchange of technical graphics
- » Multimedia exchange: how do we do it?



Exchange standards are a good thing

» SGML then XML for text

» CGM for 2D graphics

» But how do we safely exchange 3D and multimedia?

» Should we follow the CGM model for safe multimedia interchange?



Computer Graphics Metafile exchange primer

- » ISO CGM Adopted as the preferred 2D graphics format by ATA
- » Graphic Exchange (GREXCHANGE) rules included in ATA 2100 then ATA iSpec2200
- » S1000D “borrows” grexchange principles



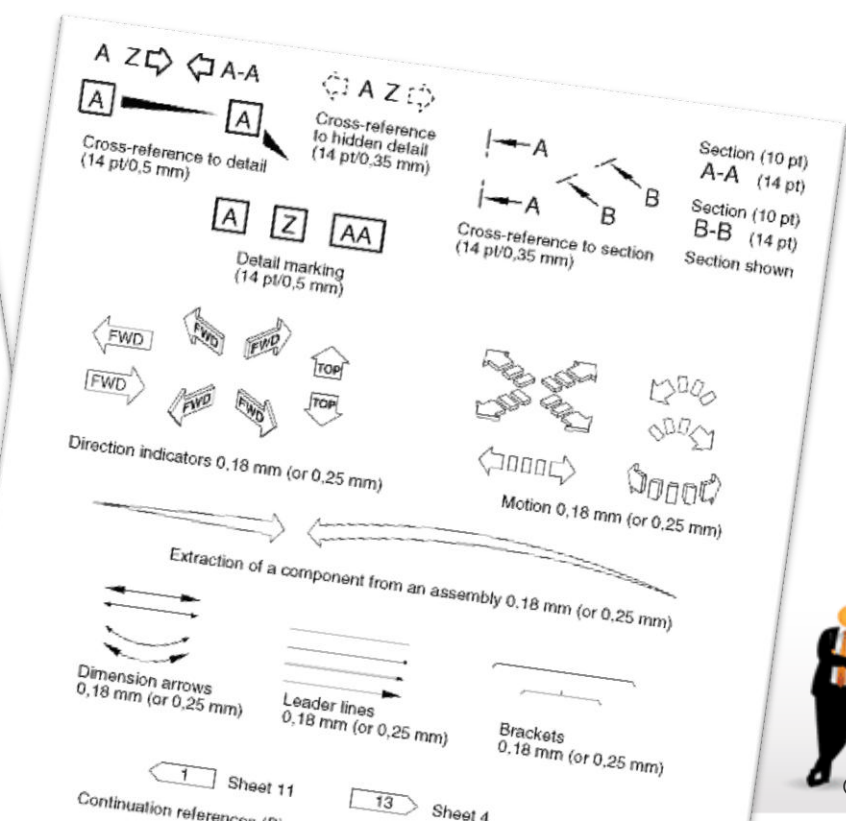
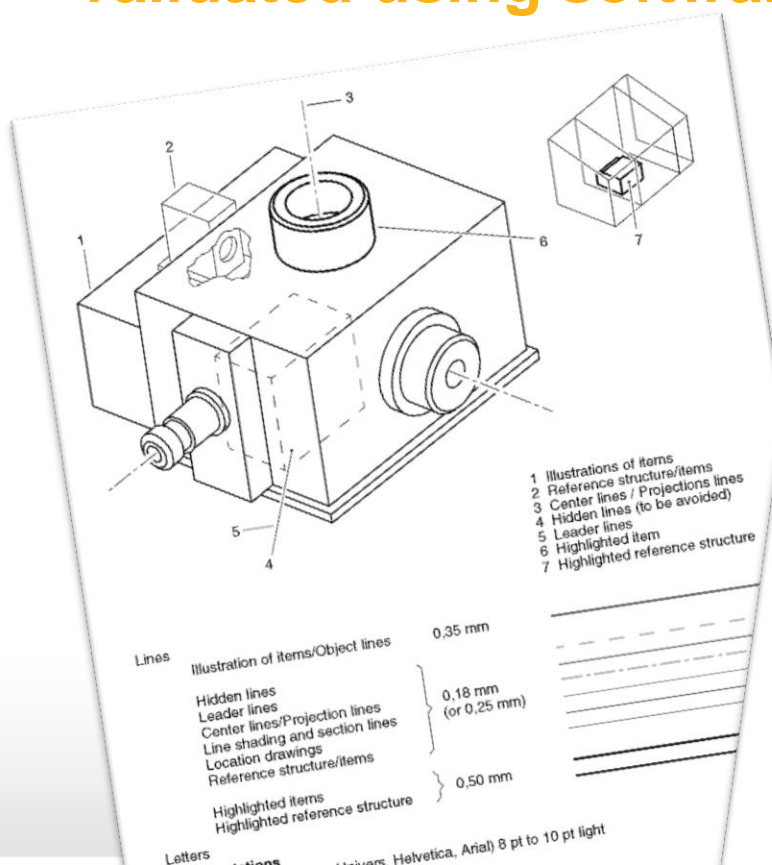
CGM profiles

- » Profiles define a limited sub-set of the full ISO CGM standard
- » Profiles may be layered which eases the specification maintenance burden



THE MISSING PARTS

- » CGM Profiles only apply to the core CGM file
- » The presentation rules are not designed to be validated using software tools



Exchange standards for all?

» No similar exchange standards for other multimedia

» S1000D lists 100 multimedia types:

- **Audio:** aif aifc au cda cdda kar m3u m3url mid midi mp3 pls rmi smf snd swa ulw wav wma
- **3D:** asm catdrawing catpart catproduct cgr ct dcr drw ds-3dxml dwf ed edz frm iges model prt rh sldasm slddrw sldprt smg smgGeom smgXml step swf u3d ugs w3d wrl x3d xv0 xv2 xv3 xvl
- **Video:** asf asr asx avi dif dv fla fli lv mheg mlv mov mp2 mp2v mp4 mpe mpeg mpeg-1 mpeg-2 mpg mpg4 qt qtr qtx ra ram rgb rm rmj rts rtsp sdp smi sml vfw wm wmp wmv wmx
- **Other:** doc mdb mpp pdf pps ppt smil xls



Multimedia Exchange challenges

- » Full 3D models or lightweight 3D
- » What is the long term future for 3D in technical communications?
- » Adobe Flash or HTML5?
- » Office documents – but which version?
- » SVG a CGM alternative?



Where now?

- » Could we do better?
- » Can we enforce safe multimedia exchange?
- » Does multimedia interchange matter?
- » What tools are available?



Visual style rules

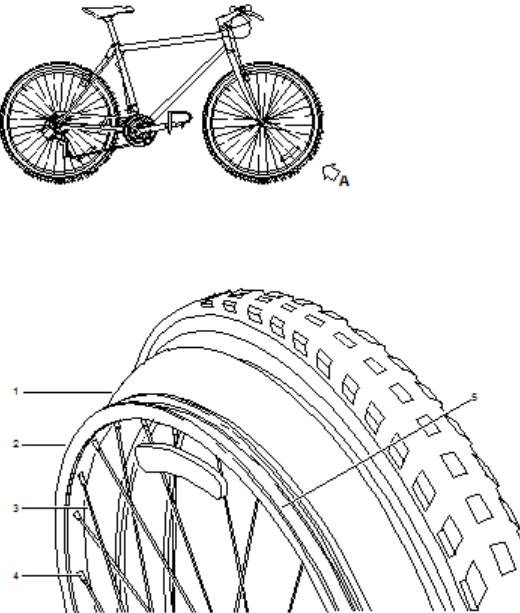
LeoValidate

File Project Validation Help

Validation

Project: Edit Project:

CGM Viewer FilesForValidation



ICN-AE-A-000000-0-U8025-00502-A-01-1.cgm Error

ICN-AE-A-000000-0-U8025-00536-A-01-1.cgm Error

ICN-AE-A-000000-0-U8025-00537-A-01-1.cgm Error

ICN-AE-A-A00000-0-U8025-00504-A-01-1.cgm Error

ICN-AE-A-A00000-0-U8025-00505-A-01-1.cgm Error

ICN-AE-A-A00000-0-U8025-00506-A-01-1.cgm Error

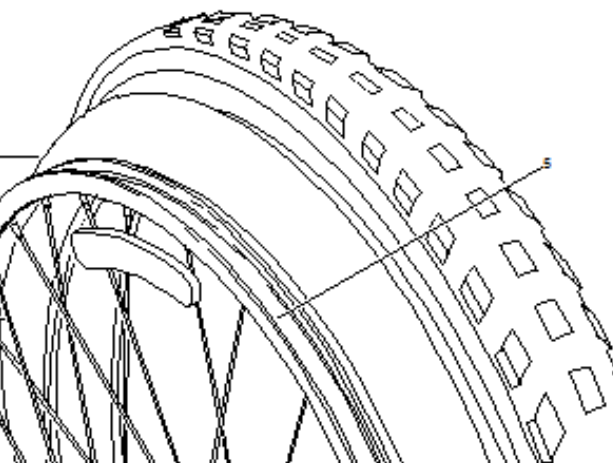
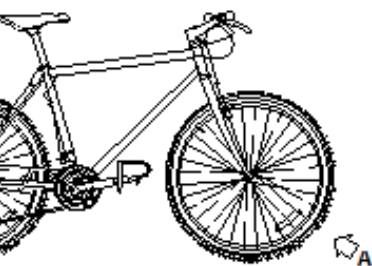
Error Report

1

- check #3 failed - Reference is missingt1405 - DESCRIPTION SOURCE [] required
- check #4 failed - Reference is missingt1405 - DESCRIPTION DATE [] required
- ▲ t1905 [RESTRICTED TEXT]
 - check #2 failed - Reference is missingt1404 - RESTRICTED TEXT TYPE [2] Restricted Text Type not...
- ▲ t2033 [PATTERN SIZE]
 - check #1 failed - PATTERN SIZE [0]
- ▷ Image Areas
- ▷ ICN
- ▷ GID
- ▷ Colors
- ▲ Text Styles
 - in the element "ICN-AE-A00000-0-U8025-00504-A-01-1", the font used (HELVETICA) is not allow...
- ▲ Line Style
 - the line in "/0" doesn't correspond to business rules
 - thickness : 0.02
- ▷ Object Styles

ICN-AE-A00000-0-U8025-00504-A-C





A

ICN-AE-A-000000-0-U8025-00504-A-C



FilesForValidation



ICN-AE-A-000000-0-U8025-00502-A-01-1.cgm	Error
ICN-AE-A-000000-0-U8025-00536-A-01-1.cgm	Error
ICN-AE-A-000000-0-U8025-00537-A-01-1.cgm	Error
ICN-AE-A-A00000-0-U8025-00504-A-01-1.cgm	Error
ICN-AE-A-A00000-0-U8025-00505-A-01-1.cgm	Error
ICN-AE-A-A00000-0-U8025-00506-A-01-1.cgm	Error

Error Report



1

- check #3 failed - Reference is missingt1405 - DESCRIPTION SOURCE [] required
- check #4 failed - Reference is missingt1405 - DESCRIPTION DATE [] required
- ▲ t1905 [RESTRICTED TEXT]
 - check #2 failed - Reference is missingt1404 - RESTRICTED TEXT TYPE [2] Restricted Text Type not...
- ▲ t2033 [PATTERN SIZE]
 - check #1 failed - PATTERN SIZE [0]
- ▷ Image Areas
- ▷ ICN
- ▷ GID
- ▷ Colors
- ▲ Text Styles
 - in the element "ICN-AE-A00000-0-U8025-00504-A-01-1", the font used (HELVETICA) is not allow...
- ▲ Line Style
 - the line in "/0" doesn't correspond to business rules
 - thickness : 0.02
- ▷ Object Styles

Do we need multimedia exchange standards?

- » What do you think?
- » Any questions?

