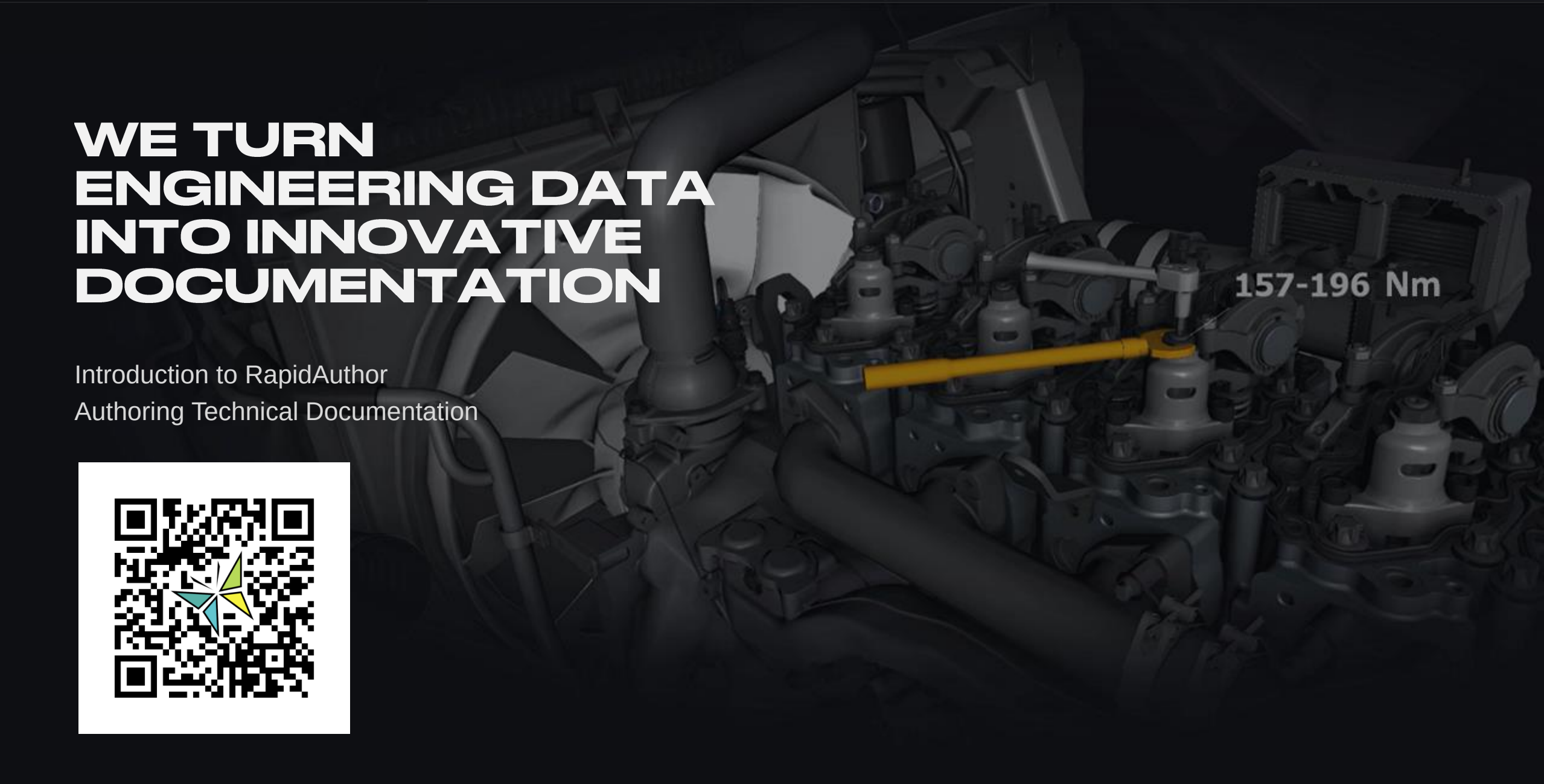
Cortona3D

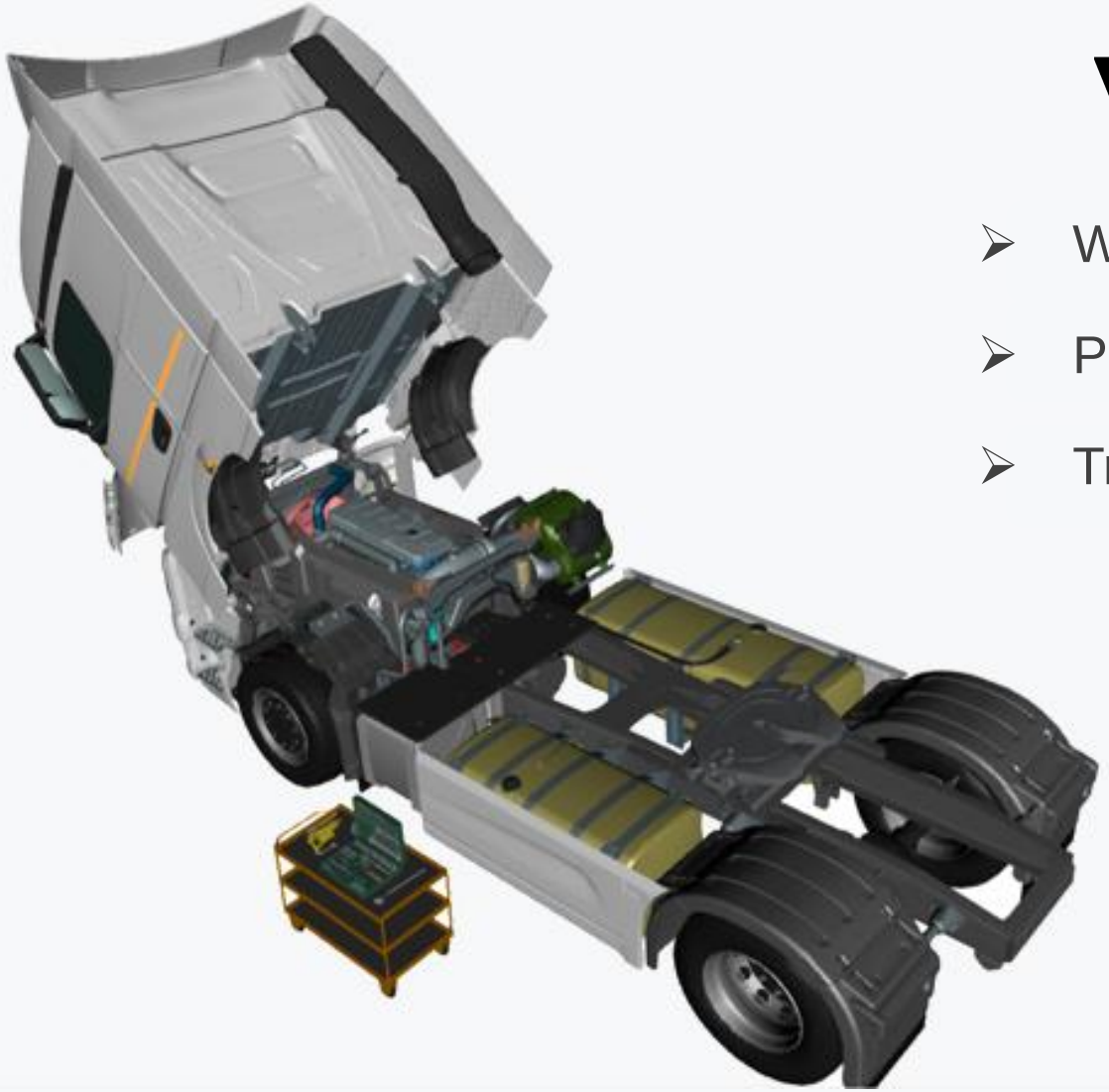
WE TURN ENGINEERING DATA INTO INNOVATIVE DOCUMENTATION



Introduction to RapidAuthor
Authoring Technical Documentation

Why RapidAuthor?

- A single solution for animated 3D, AR and PFD
- Use existing design data and documents
- Automate authoring process
- Publish to open standards for all platforms
- Publish superior future proof 3D documentation



What we do

- Work Instructions
- Parts catalog
- Training courses

Job code: XXXX-XX
Title: INSTALLATION OF MACHINE ROOMLESS ELEVATOR (MRL ELEVATOR)
Summary: Assembly and installation of elevator equipment
Work type: Assembly, installation
Role: Installer
Expected time: 3 business days
Work cell: XXX
Previous job: XXXX-XX
Next job: XXXX-XX
Revision: 001
Work order:

Prerequisites | BOM | Task | **Job**

Install counterweight. See the counterweight assembly manual for a more detailed description of counterweight assembly and installation process.

5 **Installation of tension device**

Install tension device (Refer to Fig 5.1) on the second car guide rail through tension device bracket using clamps and bolting from the side of speed limiter.

Figure 5.1

Tension device is installed according to the installation drawing (Refer to Fig 5.2). A fragment of the installation drawing with dimensions is provided as a sample.

Figure 5.2

6 **Installation of hydraulic buffers and counterweight chain guides**

6.1

Use anchor fasteners to install stand for counterweight hydraulic buffer (Refer to Fig 6.1 [2]).

Figure 6.1

Stands for car and counterweight hydraulic buffers are installed in the center of the car and counterweight according to the installation drawing (Refer to Fig 1.2). A fragment of the installation drawing with dimensions is provided as a sample.

6.2

Place and fix hydraulic shock absorber (Refer to Fig 6.1 [1]) on the stand.

6.3

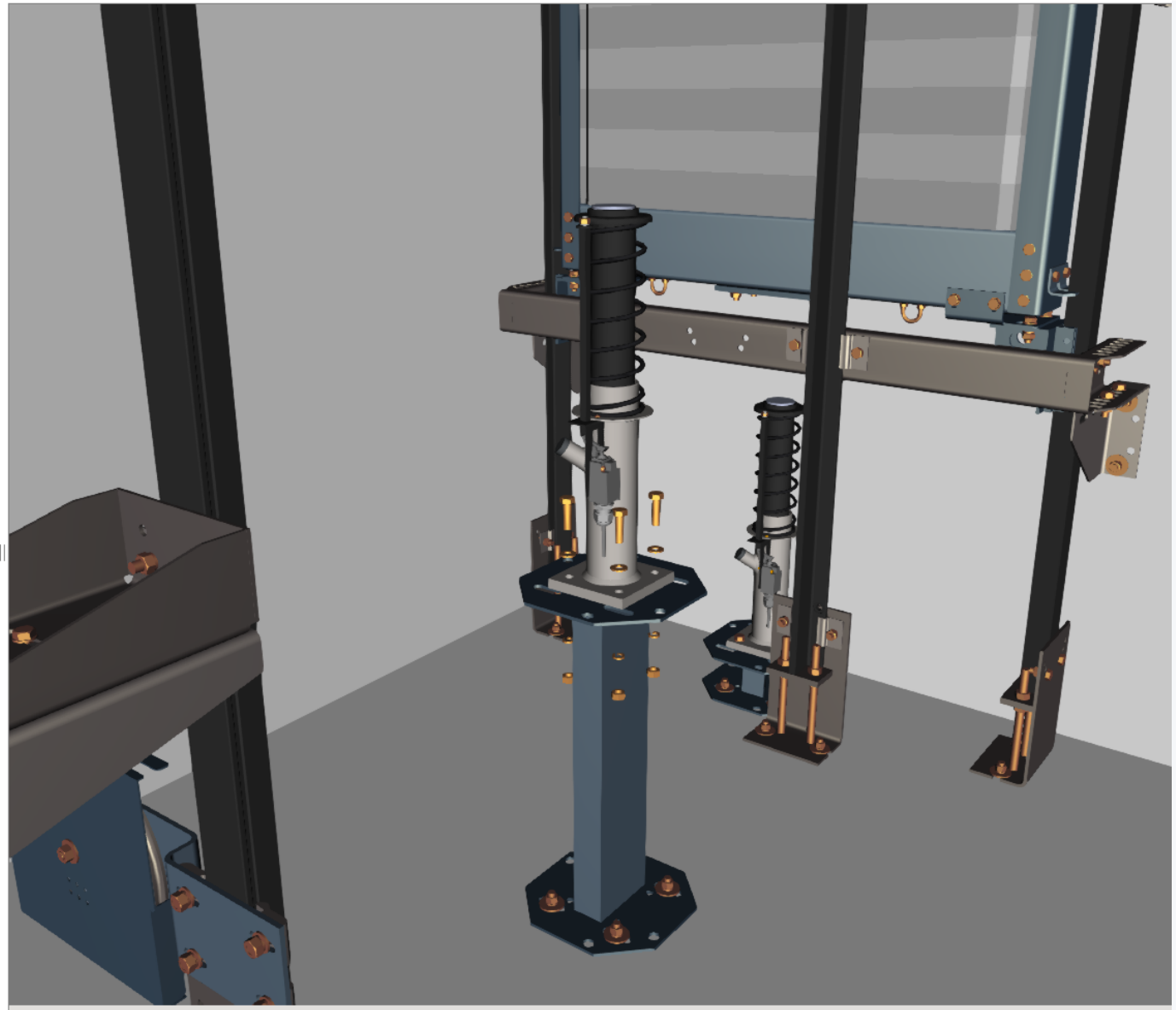
Use anchor fasteners to install stand for car hydraulic buffer (Refer to Fig 6.1 [4]).

Stands for car and counterweight hydraulic buffers are installed in the center of the car and counterweight according to the installation drawing (Refer to Fig 1.2). A fragment of the installation drawing with dimensions is provided as a sample.

6.4

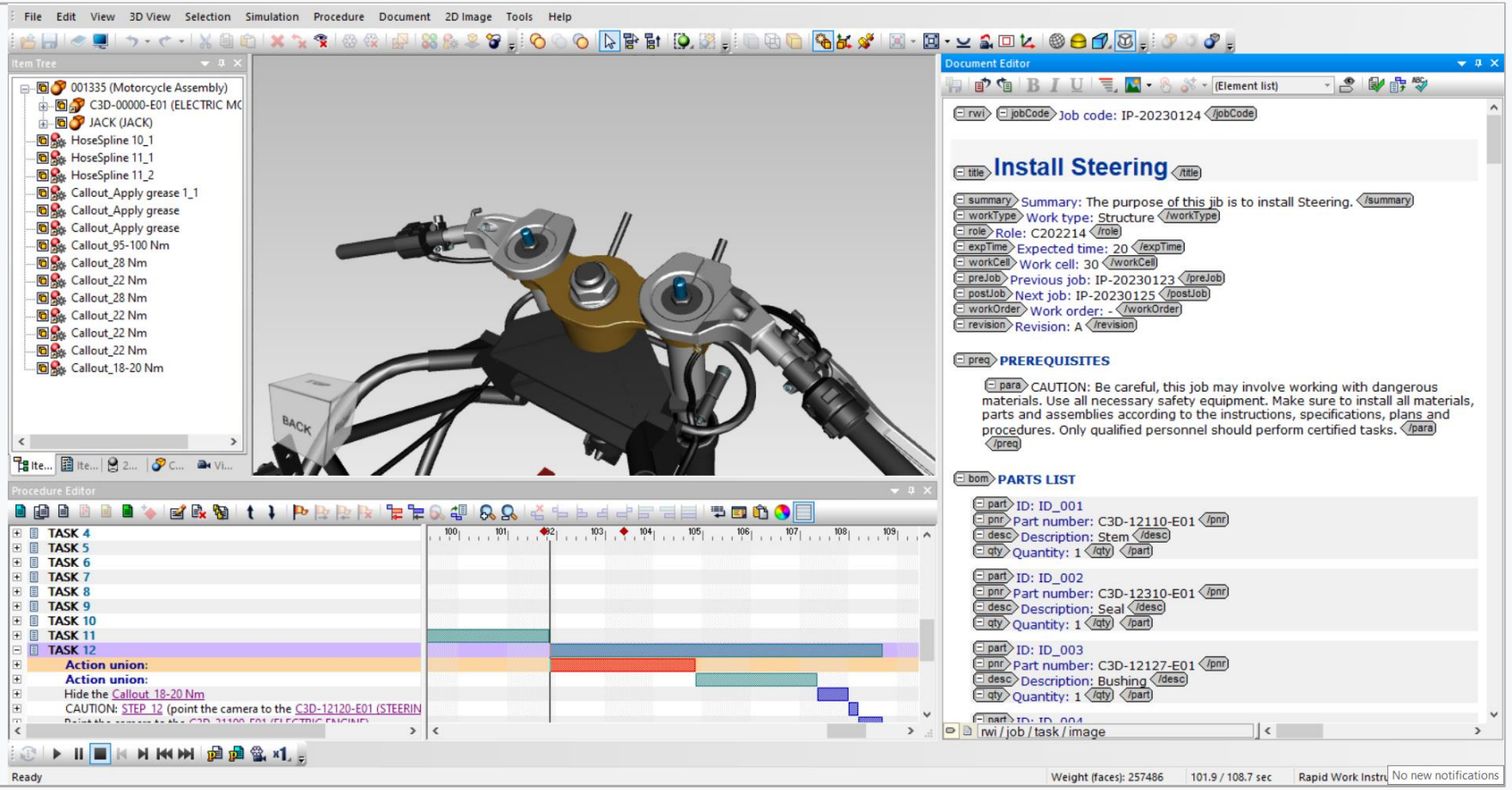
Place and fix hydraulic shock absorber (Refer to Fig 6.1 [1]) on the stand.

Preview mode | Job mode



Work Instructions

- STE-based 3D animation
- Automatic generation WI
- Reverse procedures
- Easily add audio
- Embedded XML editor
- Embedded 2D illustrations editor
- All XML/DTD schemas supported



Gesamte Tabelle

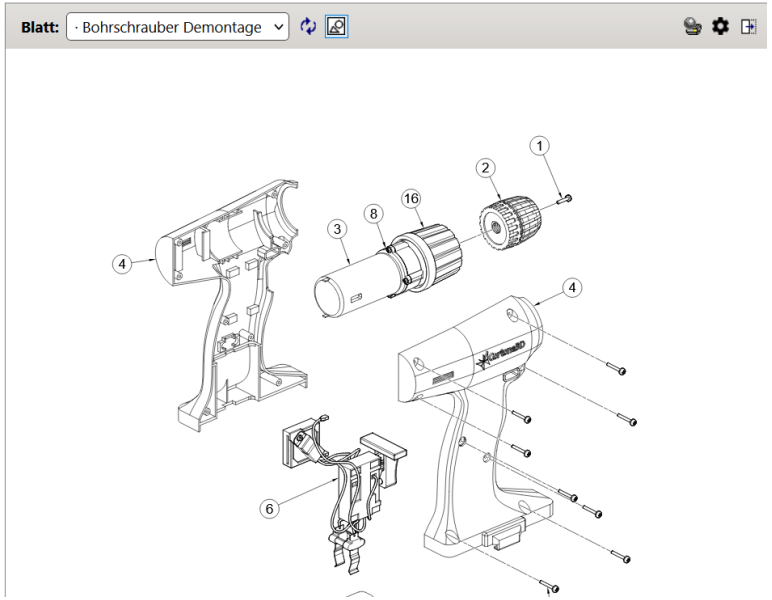
Katalog der illustrierten Teile

Bohrschrauber Ersatzteilkatalog

Veröffentlichungsdatum: 2023-03-06

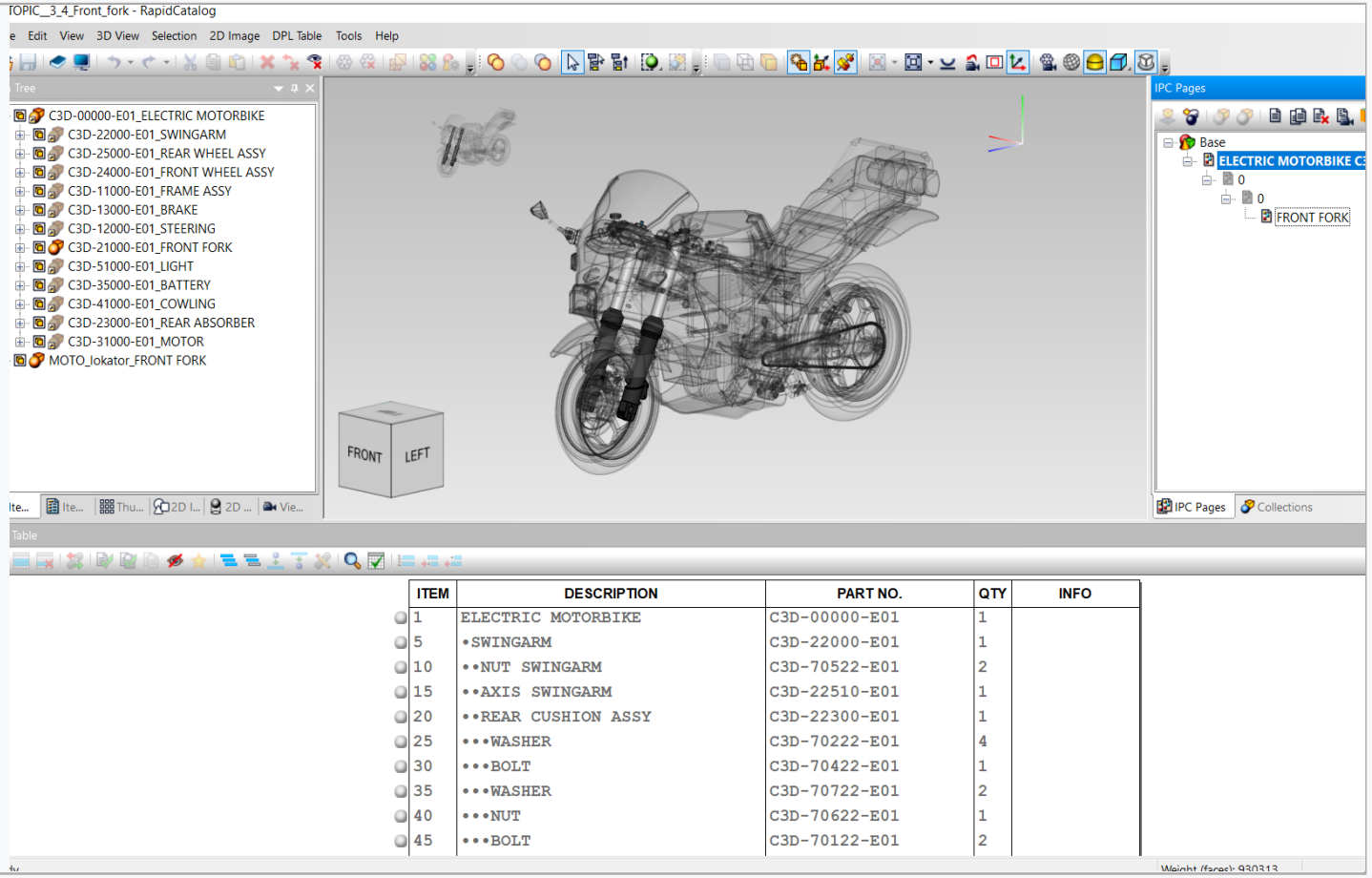
BLATT Bohrschrauber Demontage

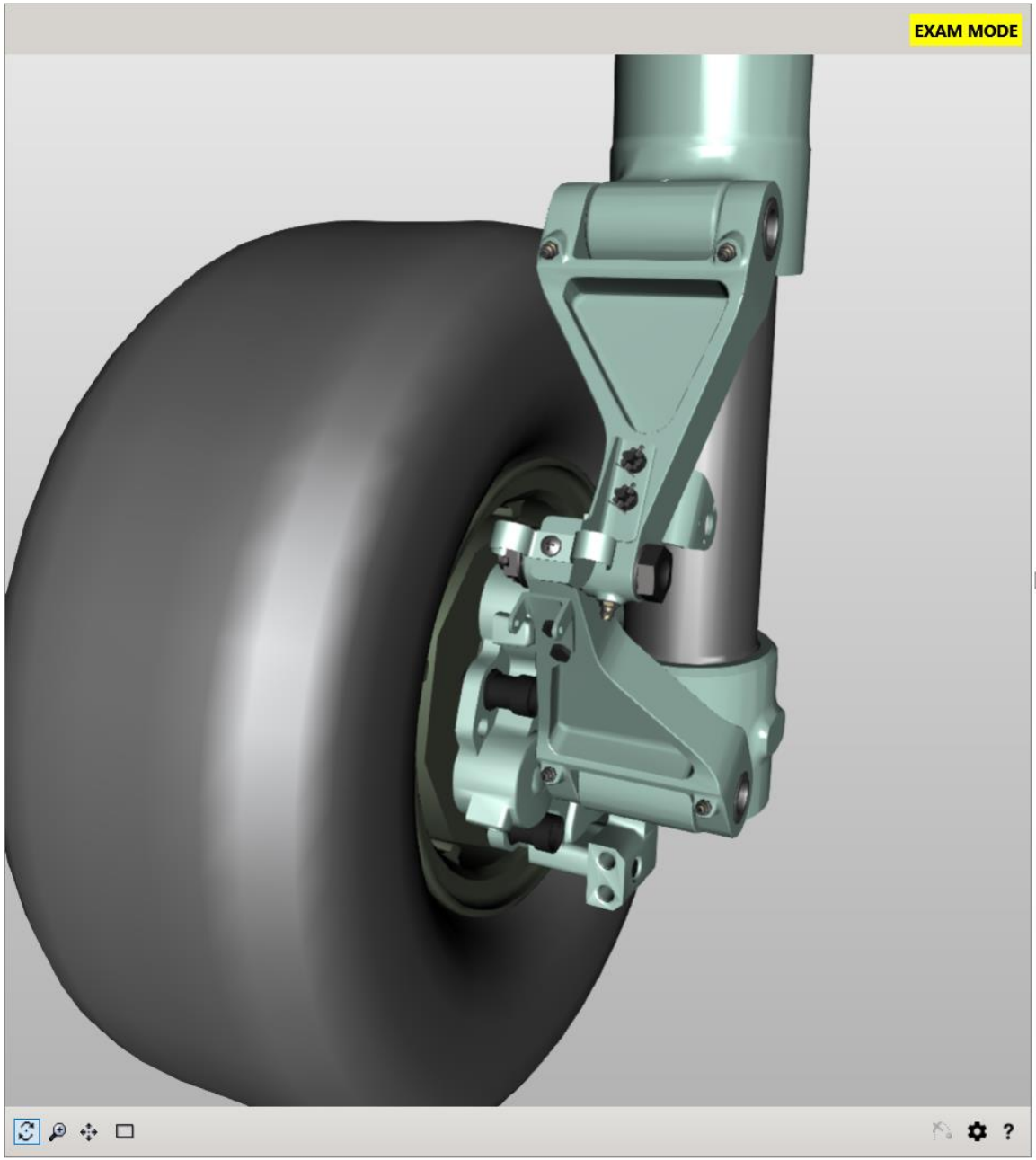
	ELEM	BESCHREIBUNG	TEILENR.	ANZ	INFO	
☑	1	Linke Schraube	C3D-DRL-F-LHS	1		
☑	2	Spannfutter	C3D-DRL-P-CHK	1		
☑	3	Motor	C3D-DRL-P-MTR	1		
☑	4	Gehäuse Set	C3D-DRL-A-HSST	1		
☑	5	Schraube 1.9x15mm	C3D-DRL-F-S19X15	8		
☑	6	Schalterblock	C3D-DRL-A-SWTCH	1		
☑	7	Batterie	C3D-DRL-P-BTR	1		
☑	8	Kupplungseinheit	C3D-DRL-A-CLTCH	1		
☑	16	Getriebemontage	C3D-DRL-A-GT	1		



Parts Catalogs

- 3D Explode and Cross-sectioning
- Full 2D graphics creation, editing and update
- Generate hotspotted 2D from 3D graphics
- Automatic generation of Detailed Parts List
- Map metadata from CAD/BOM source
- Customization and integration of publications





Torque Links Removal

Document | Instructions | **Parts** | Parameters

☐ BACP10AD02C09P	Meta
☐ BACP10AD02C09P	Meta
☐ BACP10AD02C09P	Meta
☐ BACP10AD02C09P	Meta
☐ BACP20BC01D07P	Meta
☐ BACP20BC01D07P	Meta
☐ bolt (10)	Meta
☐ bolts (20)	Meta
☐ bolts (20)	Meta
☐ bolts (8)	Meta

Remove the wheel assy

Choose the correct answer in the Choice list(s).

Click **Submit** to confirm when you are ready to continue.

Perform the procedure

- ◉ MAIN LANDING GEAR SHOCK STRUT REMOVAL
- ○ MAIN LANDING WHEEL ASSY REMOVAL
- ○ DRAG BRACE ASSY REMOVAL
- ○ MAIN LANDING GEAR BRAKE ROD REMOVAL

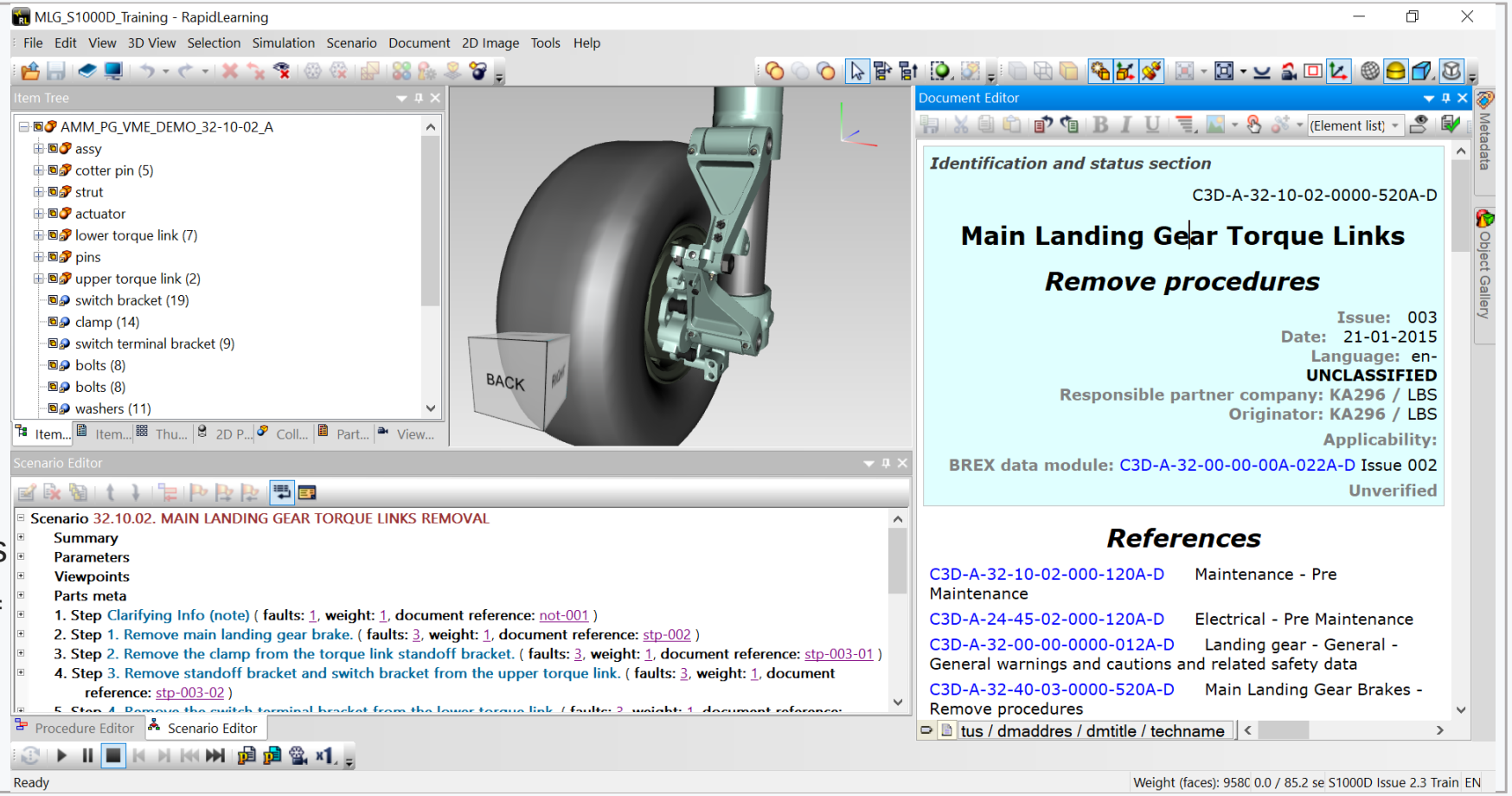
Submit

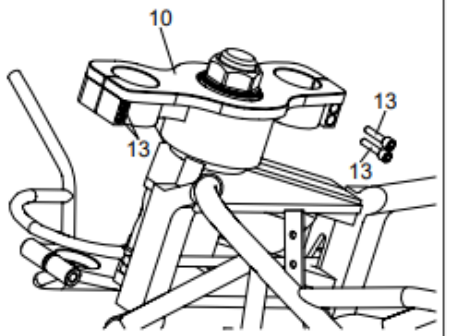
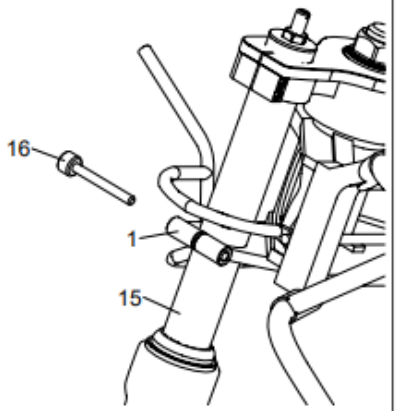
Test result:

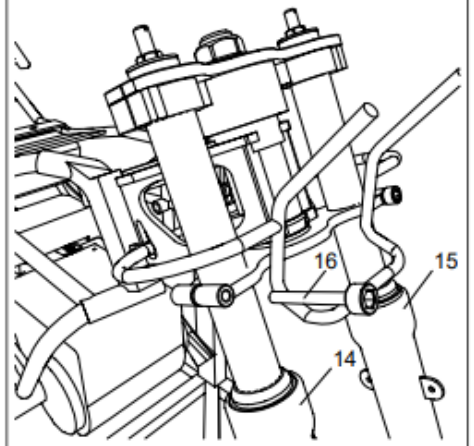
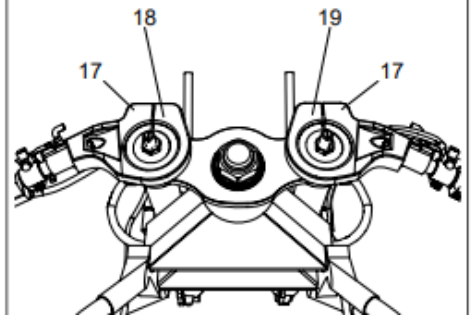
Switch off mode

Training Courses

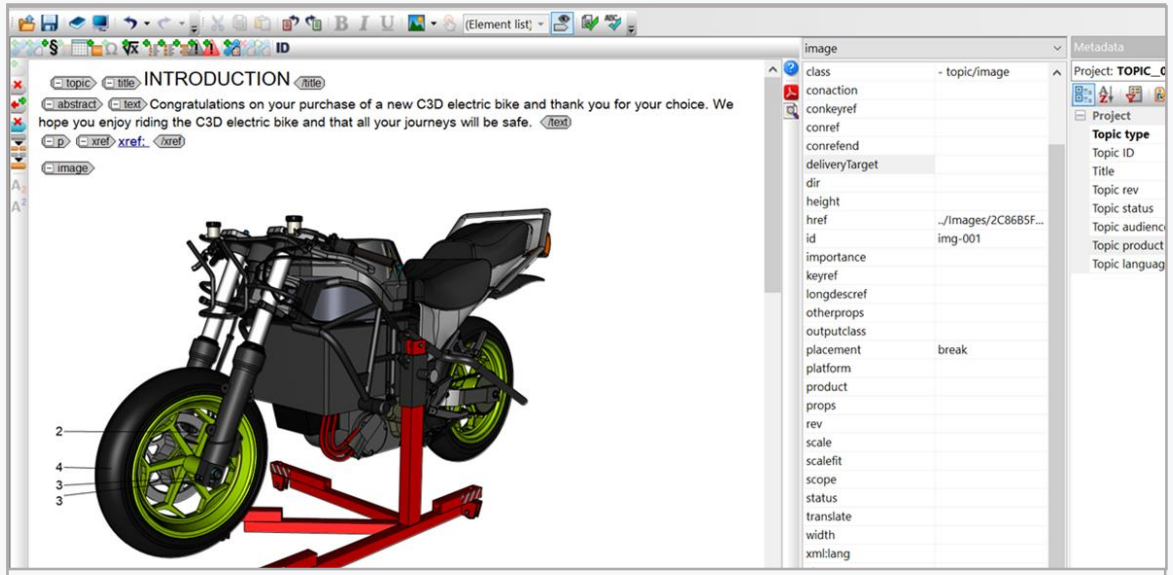
- STE based 3D animation
- Reuse existing procedures & animations
- Training scenarios
- Identify Parts
- Multiple choice questions
- Procedure branching
- SCORM package
- Demo, Study and Exam modes
- Exam will track performance of a trainee and can be reviewed or transferred to an LMS



№	Task	Illustration
5	Install the four Bolts (13) in the Top Bridge (10) without tightening.	 Figure 5
6	Install the Left Front Fork Assy (15) into the Top Bridge and screw in the Flange Bolt (16) into the Stem (1) .	 Figure 6

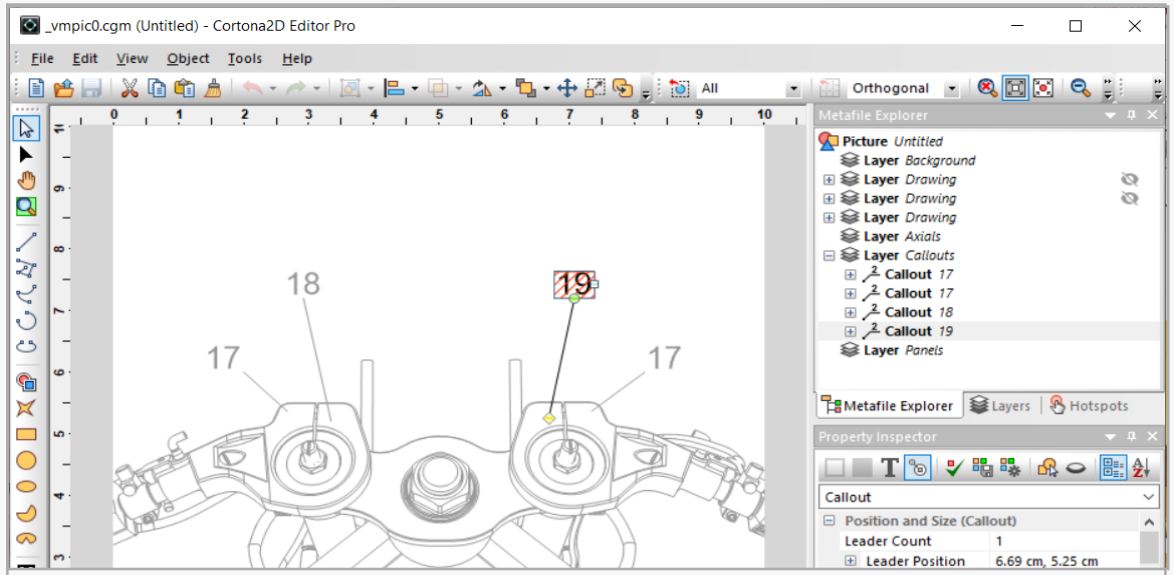
№	Task	Illustration
7	Install the Right Front Fork Assy(14) into the Top Bridge and screw in the Flange Bolt (16) in the Stem.	 Figure 7
8	Tighten the Flange Bolt (16) on the right side of the Stem to 28 Nm and the Bolts on the right side of the Top Bridge to the recommended torque of 22 Nm.	
9	Tighten the Bolts on the left side of the Top Bridge to the recommended torque of 22 Nm and the Flange Bolt (16) on the left side of the Stem to 28 Nm.	
10	Install the Left Handlebars(18) and Right Handlebars (19) and screw in the Bolts (17) by hand.	

XML Text & 2D illustrations



Advanced text editor

Powerful set of functions for the creation of traditional 2D documentation. Integrated with RapidManual and RapidLearning.

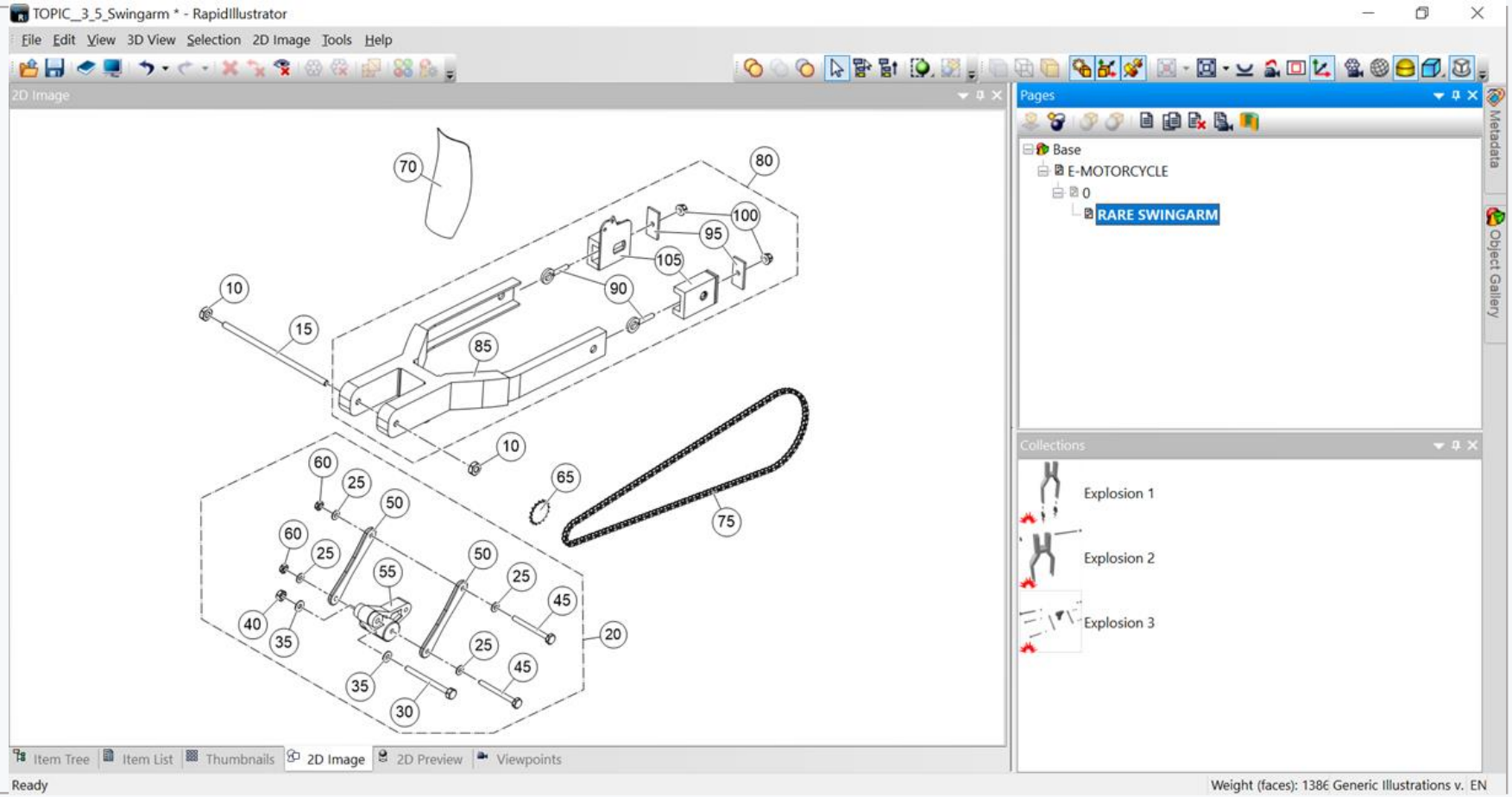


Powerful editor for 2D illustrations

Wide range of functionality for editing of 2D vector and raster graphics. Integrated with RapidManual and RapidLearning. Supports Update.

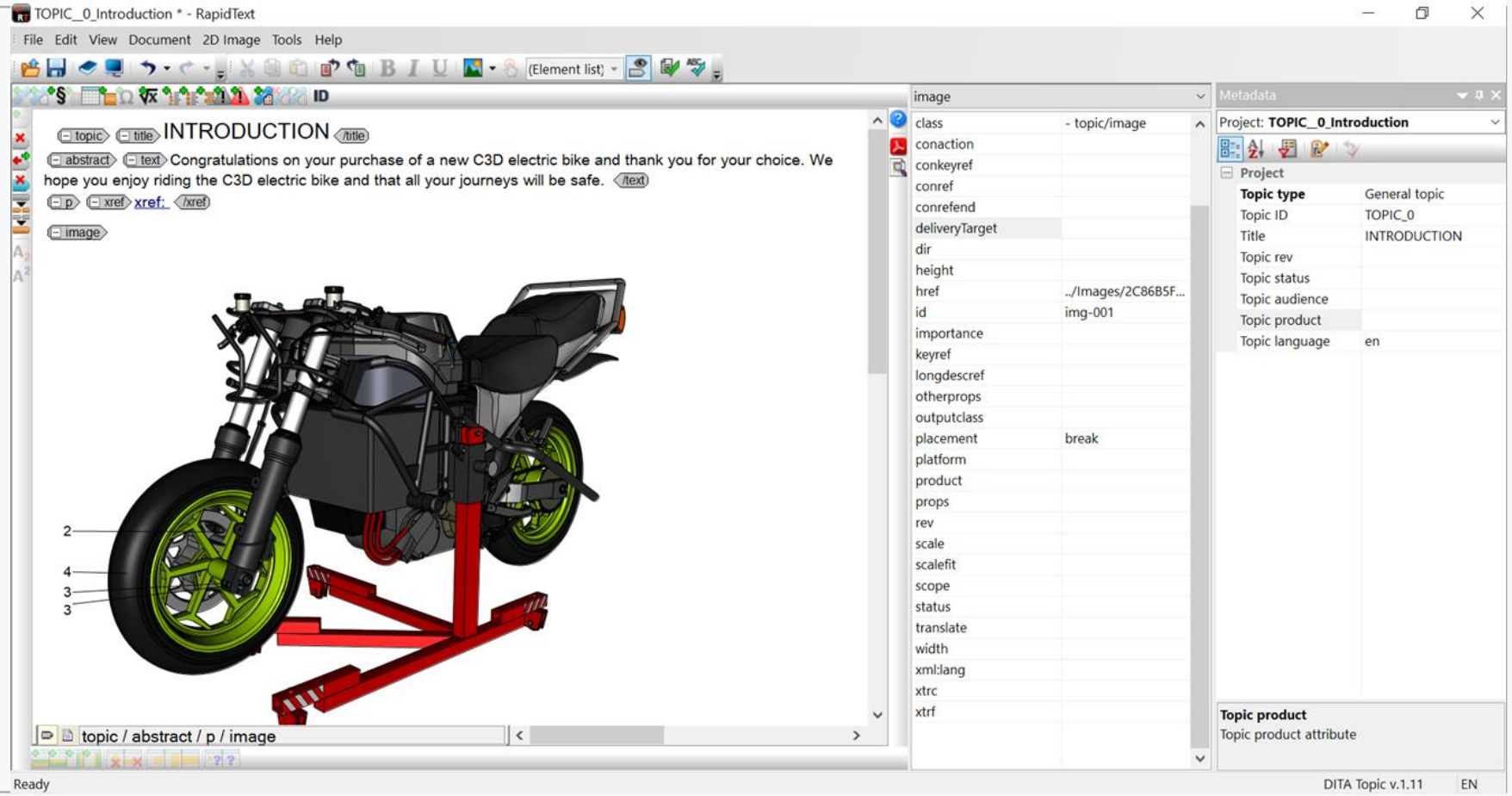
2D Illustrations

- Integration with RapidManual and RapidLearning
- Powerful set of functions for the creation of 2D vector and raster graphics
- Update support



XML texts

- Update support
- Support for PDF
- Creation of document structures



ELECTRIC MOTORBIKE C3D - Cortona3D Solo Universal Viewer

File Help

Hide ◀ ▶

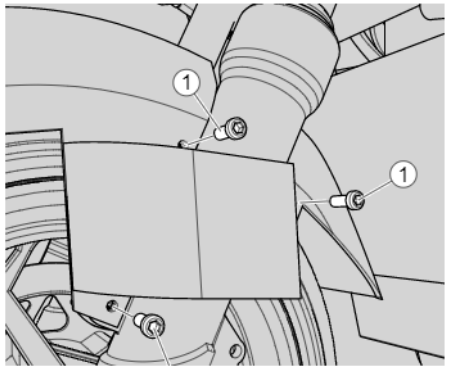
Structure | History | Search

- ELECTRIC MOTORBIKE C3D
  - INTRODUCTION
  - GENERAL INFORMATION
    - GENERAL VIEW
    - TECHNICAL DATA
    - POWER JACK INSTALLATION
  - REPAIR MANUAL
    - FRONT FENDER ASSY DISASSEMBLY
    - FRONT WHEEL DISASSEMBLY
    - LEFT FRONT FORK TUBE DISASSEMBLY
    - RIGHT FRONT FORK TUBE DISASSEMBLY
  - PARTS CATALOG
    - FRAME ASSY
    - STEERING
    - BRAKE
    - FRONT FORK
    - SWINGARM
    - REAR ABSORBER
    - FRONT WHEEL ASSY

FRONT FENDER ASSY DISASSEMBLY

1. **CAUTION: Make sure that the vehicle is securely fastened so that there is no danger of it falling.**

3D Unscrew the bolts (1) on the left side of the front fender.



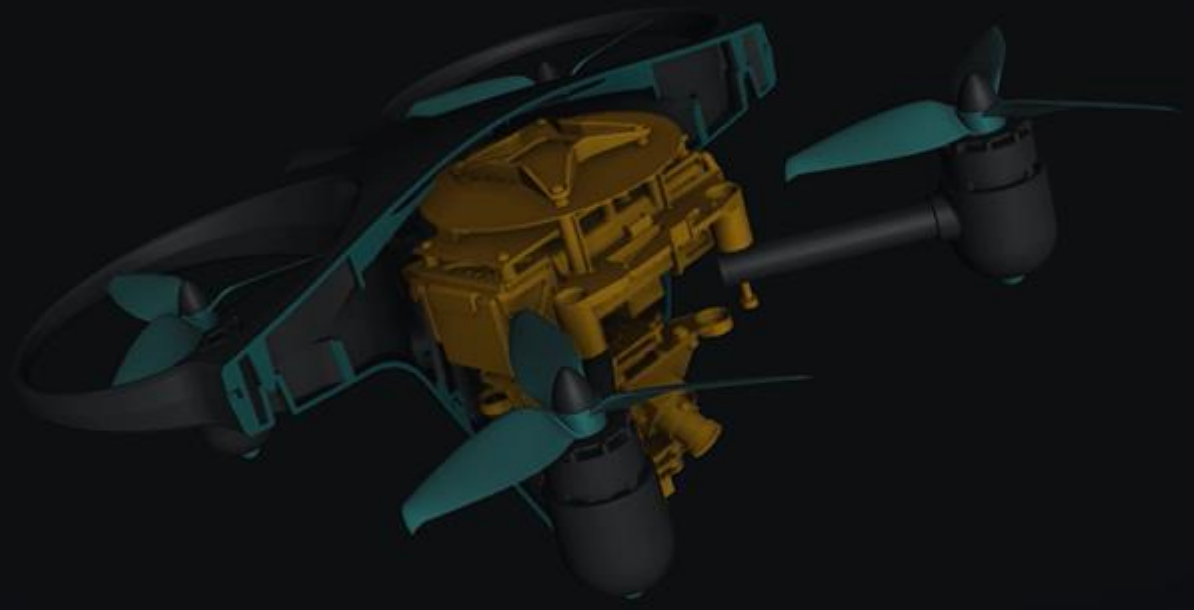
0:00 / 0:16

Transparency:

Cortona3D

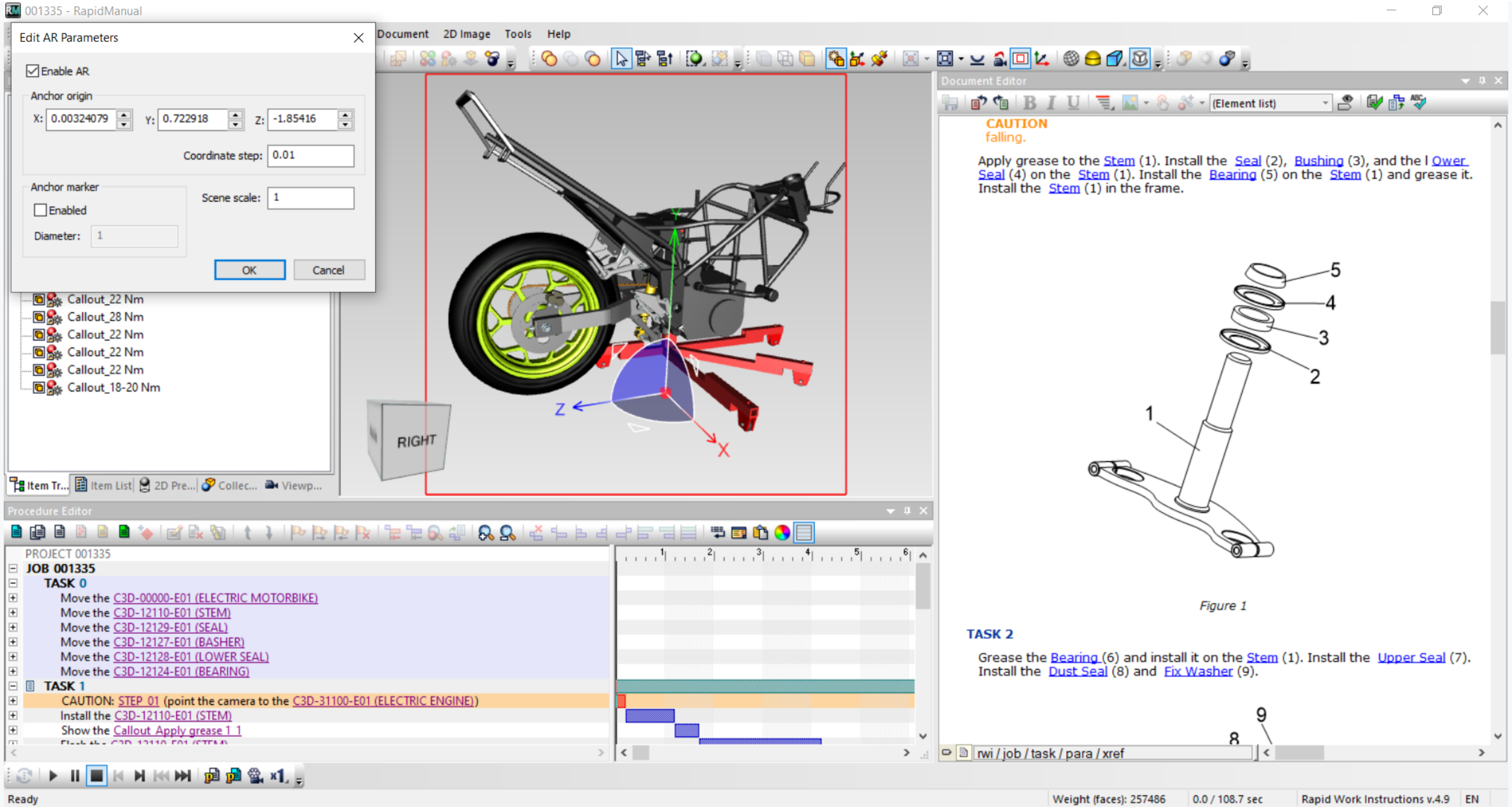
AUGMENTED REALITY

Publish to iOS and display your content in Augmented Reality.

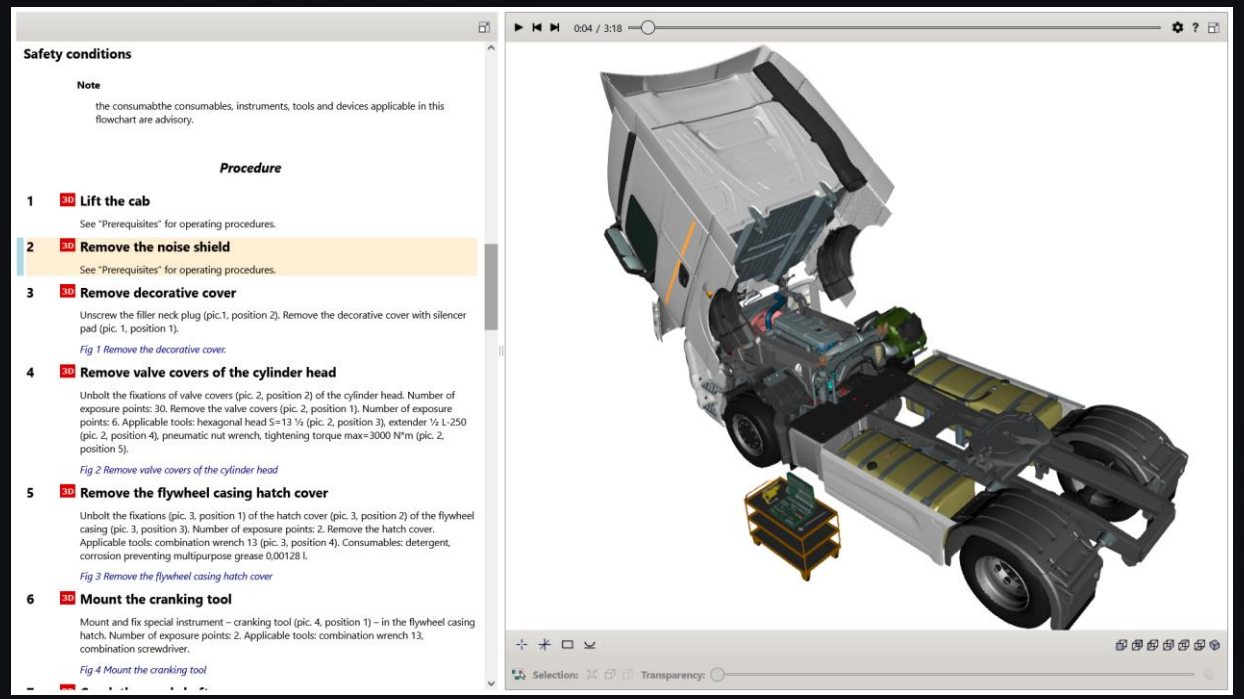


We collaborate with partners to cover more involved mixed reality use-cases.

RapidAuthor Augmented Reality



EXAMPLES FOR INNOVATIVE TECHNICAL DOCUMENTATION



- Track maintenance procedure module
- Elevator assembly WorkInstruction
- Drill Parts Catalog
- Track - structured set of Parts Catalogs
- Rear Drive Unit Work Instruction
- Compressor Reservoir Removal
- Lean Technic

Over 500 major manufacturing companies worldwide

Many years experience with complex software solutions

Foundation

2000

2004

AIRBUS

RapidAuthor standalone sales

2005

2006

Siemens Software & Technology Partnership

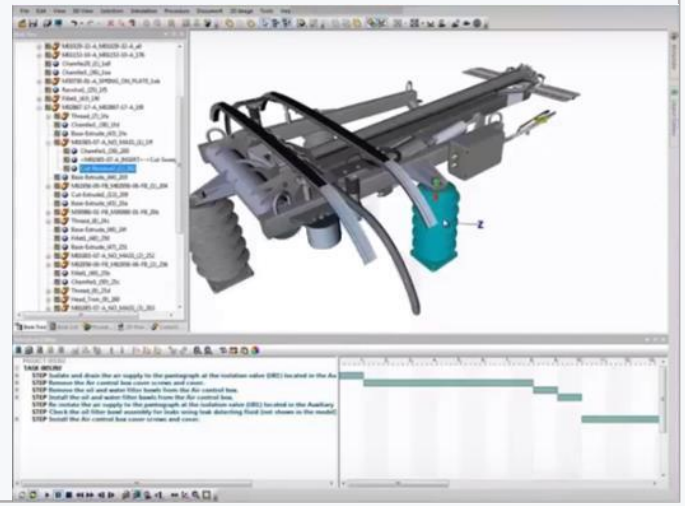
2011

Siemens DISW roadmap development & integrations

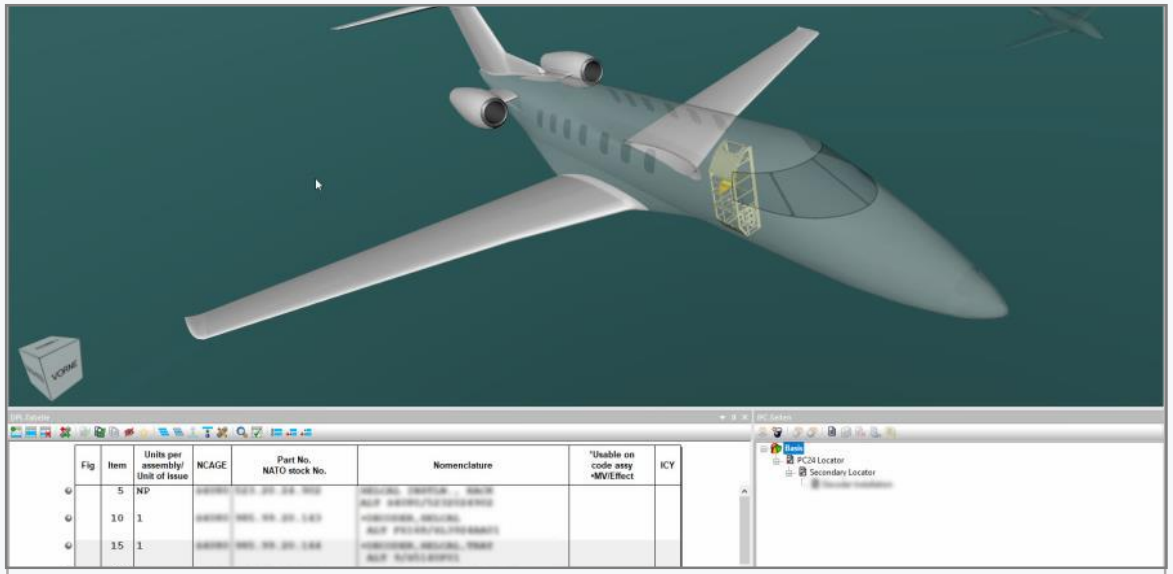
2023…

Manuals

- 700 documents produced by a team of four in 14 months
- 50 percent less time to produce maintenance tasks
- 30 percent reduction in time spent on maintenance
- Significantly lower cost

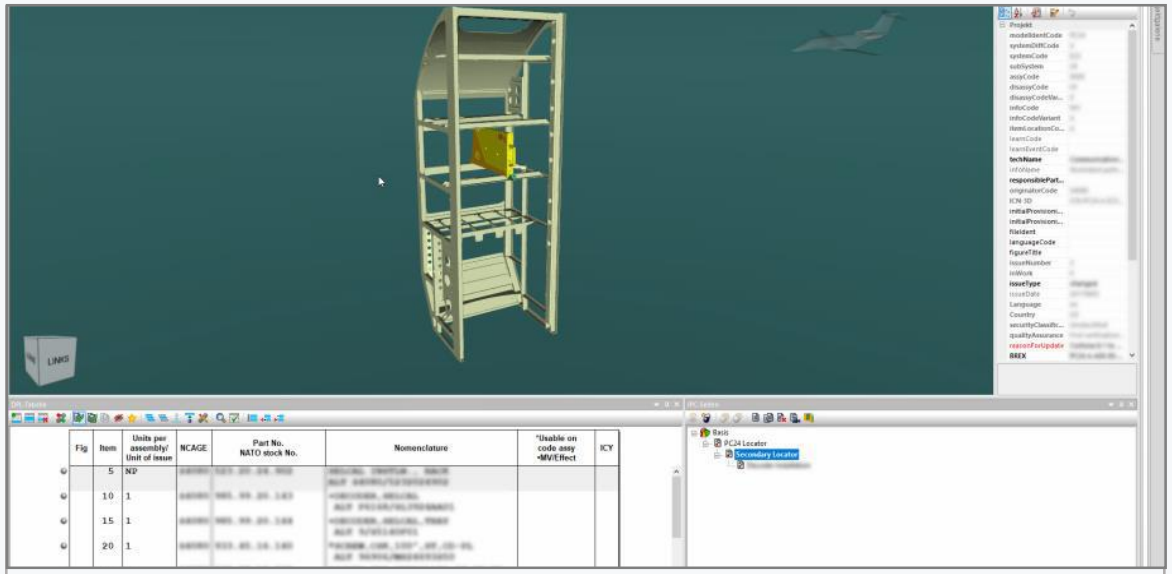


3D IPD & Structural Manual



Development and Production time

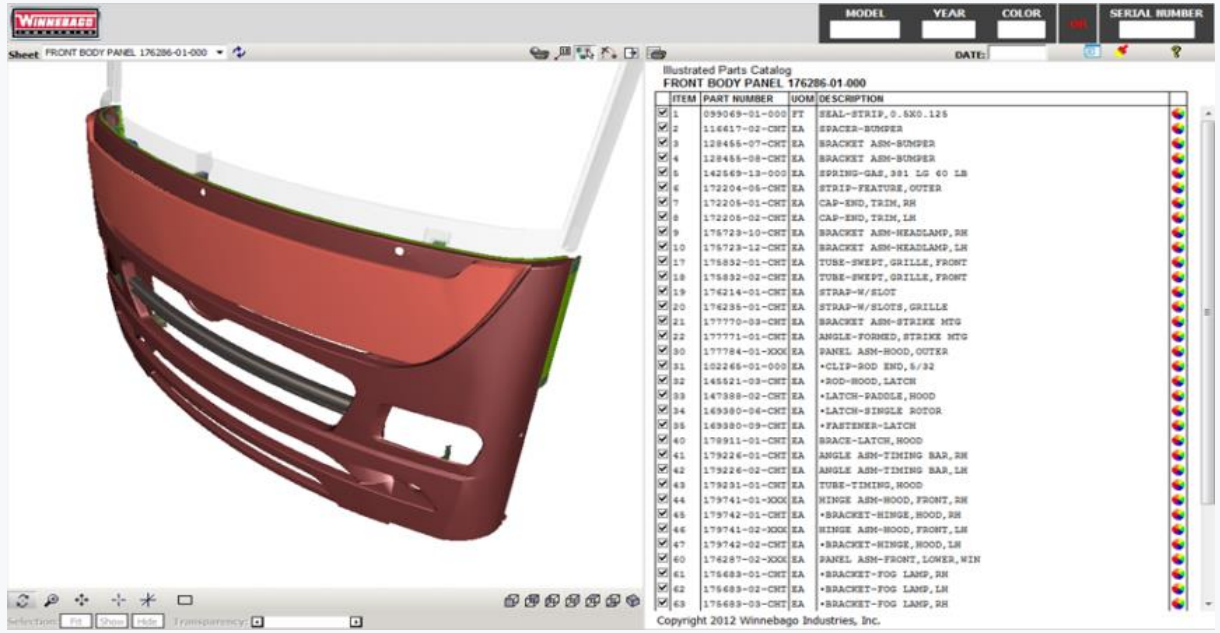
Development time of 3D IPD and SRM was cut by an estimated 40% due to the simultaneous capability of compiling and illustrating and enhanced functionality. Software customization has brought its results too: it has reduced production time and increased efficiency by approximately 30%



3D IPD & SRM

Pilatus Aircraft Ltd uses RapidAuthor for Teamcenter for the production of interactive Illustrated Parts Data and the item identification part of Structural Repair Manuals for its latest model, the PC-24 Super Versatile Jet

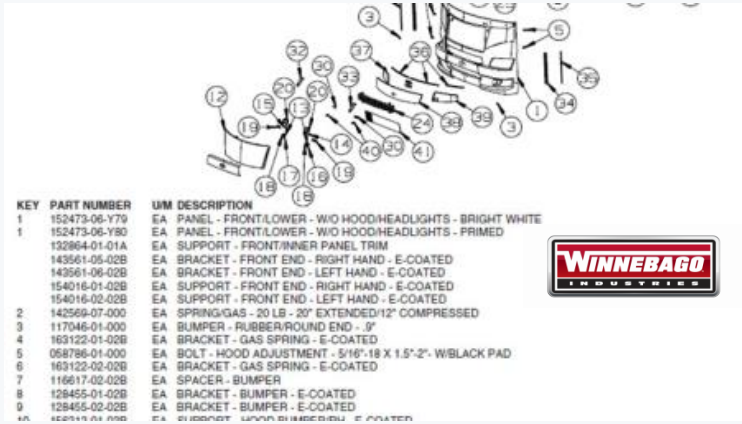
3D Parts Catalogs



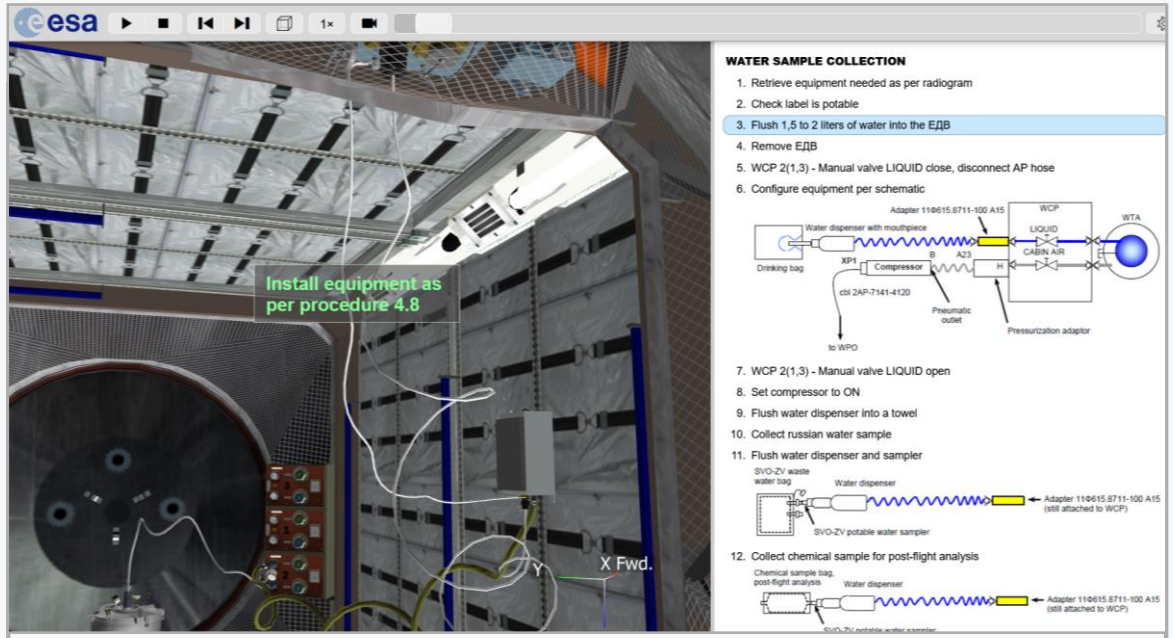
Cortona3D's RapidAuthor suite creates interactive part catalogs for Winnebago Industries. This approach allows:

- to process and complete the parts catalog 33% faster
- reduce manpower requirements by 40%

The most substantial costs savings have been derived by the re-use of the existing 3D geometry which has shortened the production process considerably.

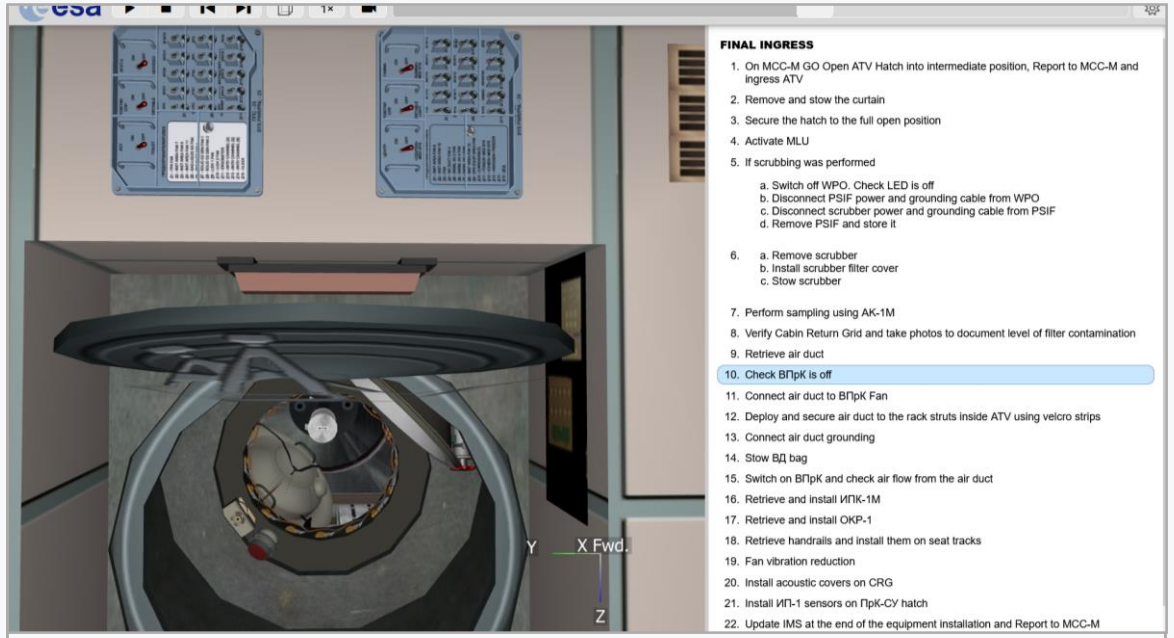


e-Learning trainings for astronauts



Visual training at European Astronaut Centre

ESA uses RapidLearning to train their crews in complex maneuvers for their ATVs, which bring critical supplies to the ISS. Mistakes can cause loss of life, ruin millions of dollars in equipment, or waste years of work.



3D Computer Based training courses

“This tool is very easy to use and that’s very important. Crews refresh a two-hour procedure in five minutes. It’s that intuitive.”

- Richard Moss, ATV Crew Instructor & Team Coordinator, ESA

Parts Catalogs & e-Learning courses

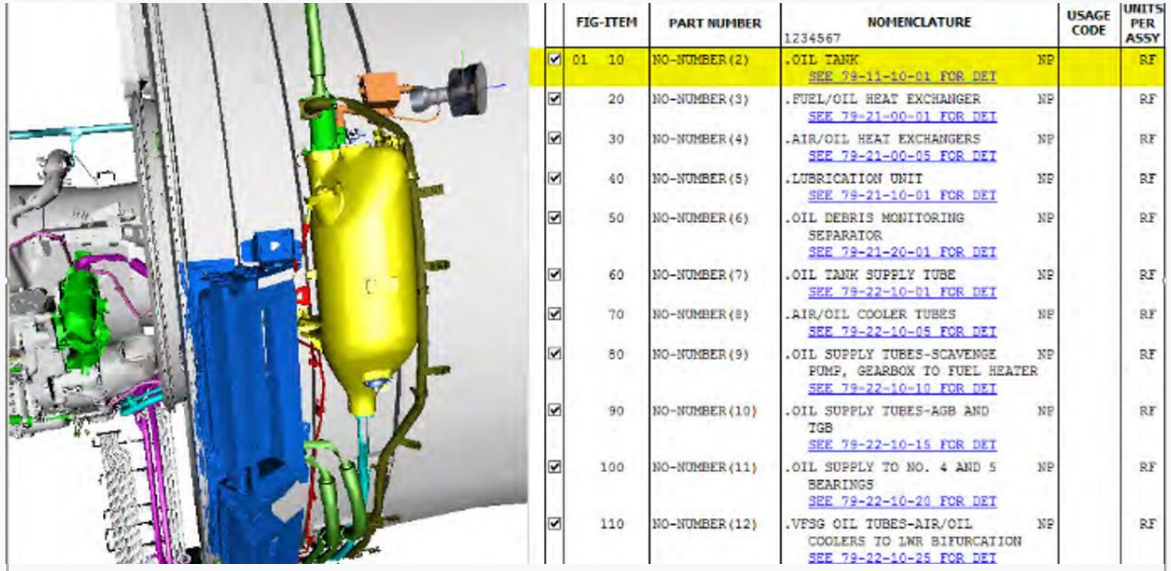
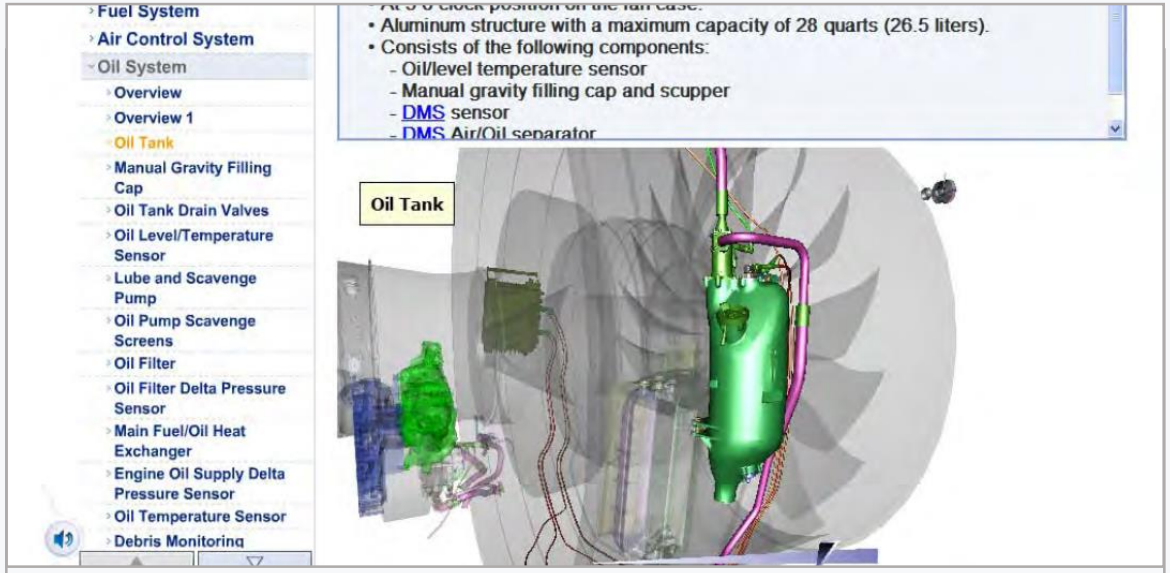


	FIG-ITEM	PART NUMBER	NOMENCLATURE 1234567	USAGE CODE	UNITS PER ASSY
☑	01 10	NO-NUMBER(2)	.OIL TANK NP SEE 79-11-10-01 FOR DET		RF
☑	20	NO-NUMBER(3)	.FUEL/OIL HEAT EXCHANGER NP SEE 79-21-00-01 FOR DET		RF
☑	30	NO-NUMBER(4)	.AIR/OIL HEAT EXCHANGERS NP SEE 79-21-00-05 FOR DET		RF
☑	40	NO-NUMBER(5)	.LUBRICATION UNIT NP SEE 79-21-10-01 FOR DET		RF
☑	50	NO-NUMBER(6)	.OIL DEBRIS MONITORING NP SEPARATOR SEE 79-21-20-01 FOR DET		RF
☑	60	NO-NUMBER(7)	.OIL TANK SUPPLY TUBE NP SEE 79-22-10-01 FOR DET		RF
☑	70	NO-NUMBER(8)	.AIR/OIL COOLER TUBES NP SEE 79-22-10-05 FOR DET		RF
☑	80	NO-NUMBER(9)	.OIL SUPPLY TUBES-SCAVENGE NP PUMP, GEARBOX TO FUEL HEATER SEE 79-22-10-10 FOR DET		RF
☑	90	NO-NUMBER(10)	.OIL SUPPLY TUBES-AGB AND NP TGB SEE 79-22-10-15 FOR DET		RF
☑	100	NO-NUMBER(11)	.OIL SUPPLY TO NO. 4 AND 5 NP BEARINGS SEE 79-22-10-20 FOR DET		RF
☑	110	NO-NUMBER(12)	.VFSG OIL TUBES-AIR/OIL NP COOLERS TO LWR BIFURCATION SEE 79-22-10-25 FOR DET		RF

3D IPD

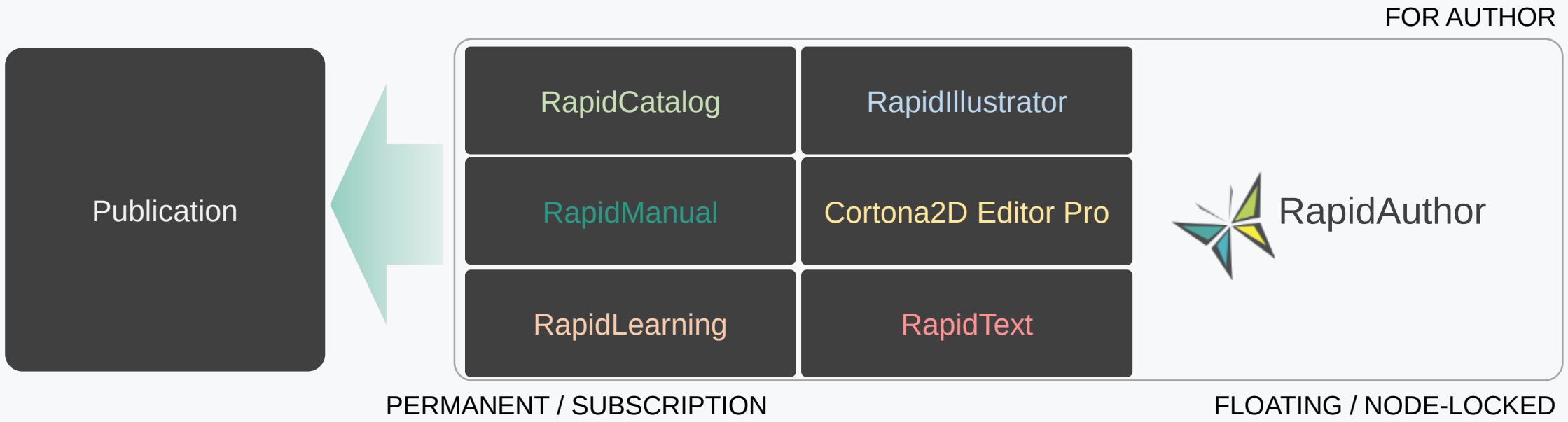
“What we once redrew and re-described, we now import and link.” Training and review is faster, more memorable and intuitive as maintenance staff can rotate, explode, zoom in on equipment parts.



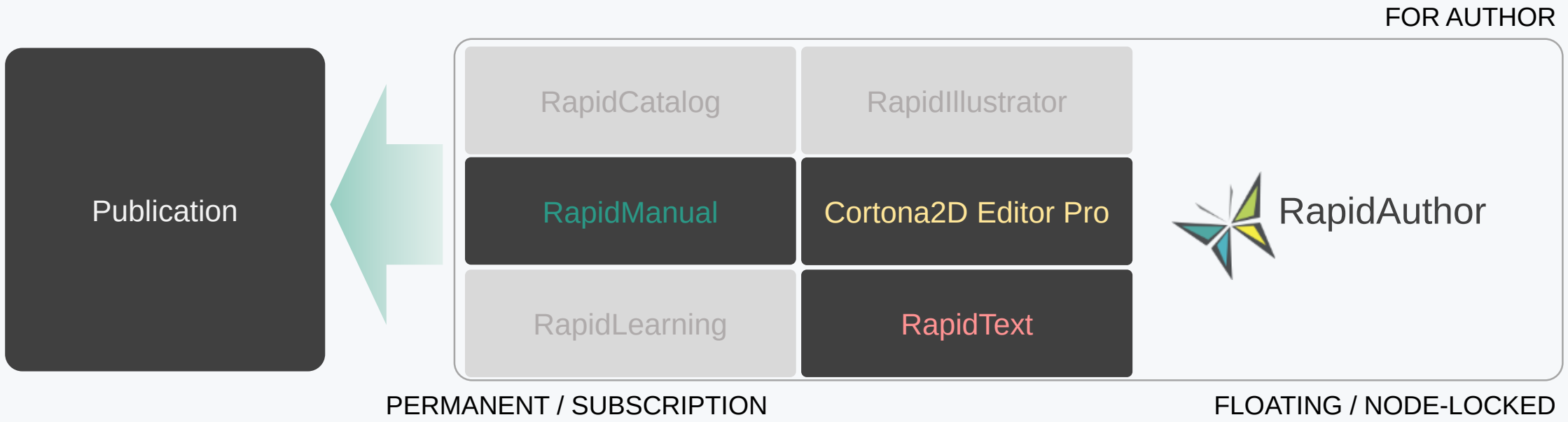
3D Computer Based training courses

87% cost savings Authoring time drops from 8 hours per page to 1 hour. Changes can be instantly disseminated worldwide in a variety of formats. Users manipulate images on-screen for greater clarity and ease of learning.

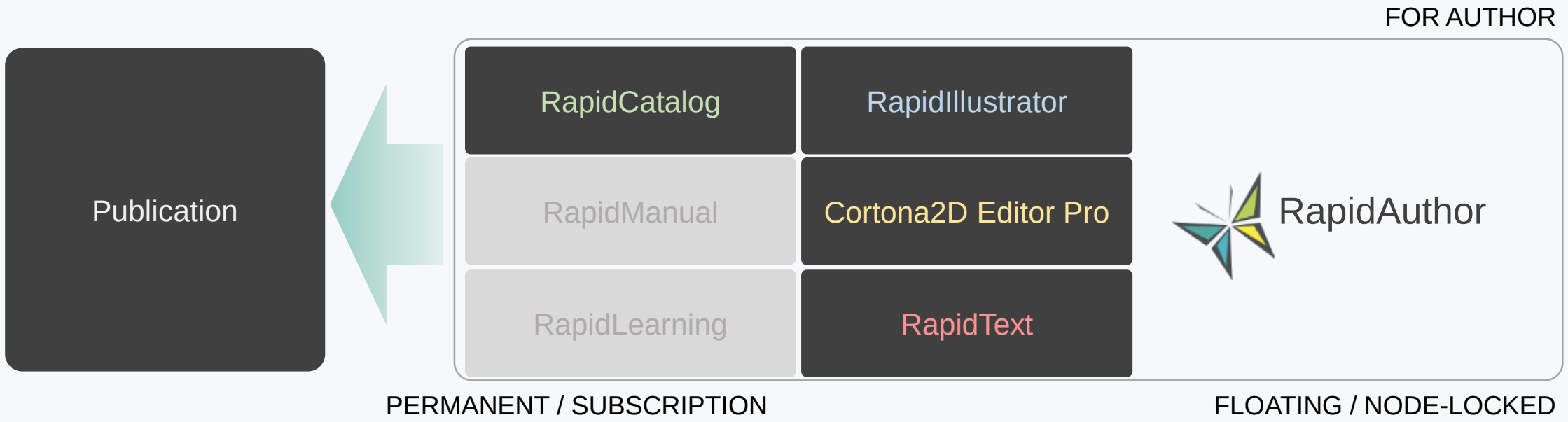
RapidAuthor



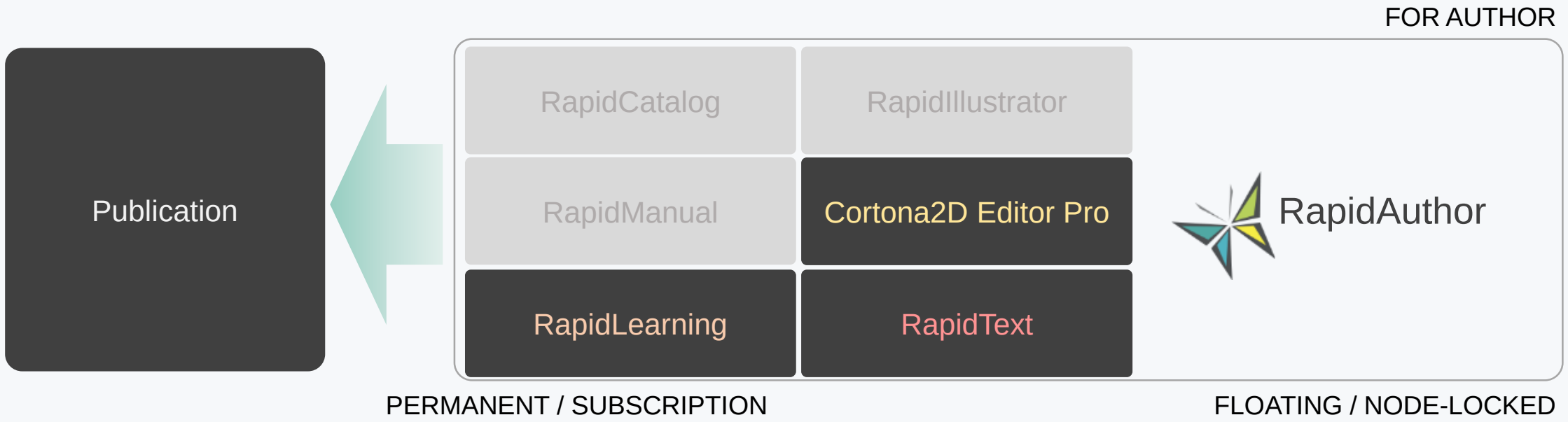
RapidManual



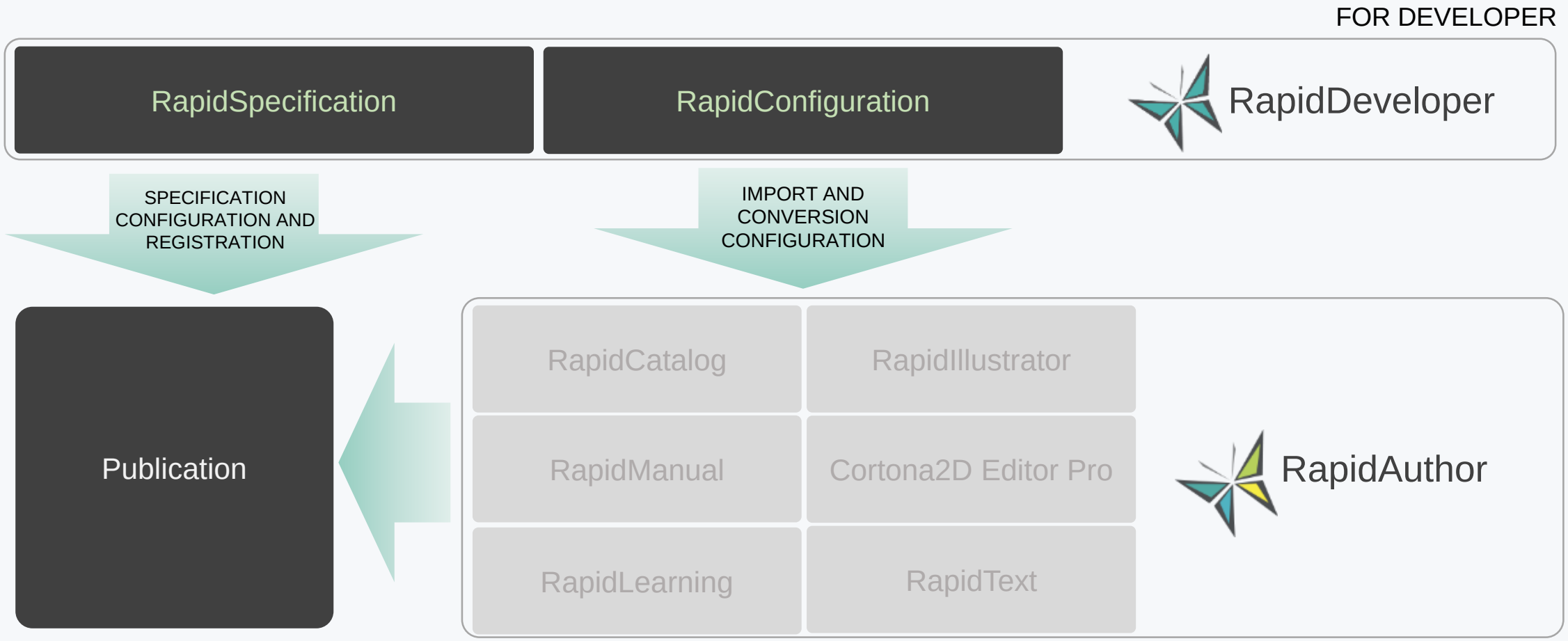
RapidCatalog



RapidLearning



RapidDeveloper



THANK YOU!

Parallel Graphics Ltd t/a Cortona3D
Block B, Unit 2,
Broomfield Business Park,
Malahide, Dublin, Ireland.

grafov@cortona3d.com