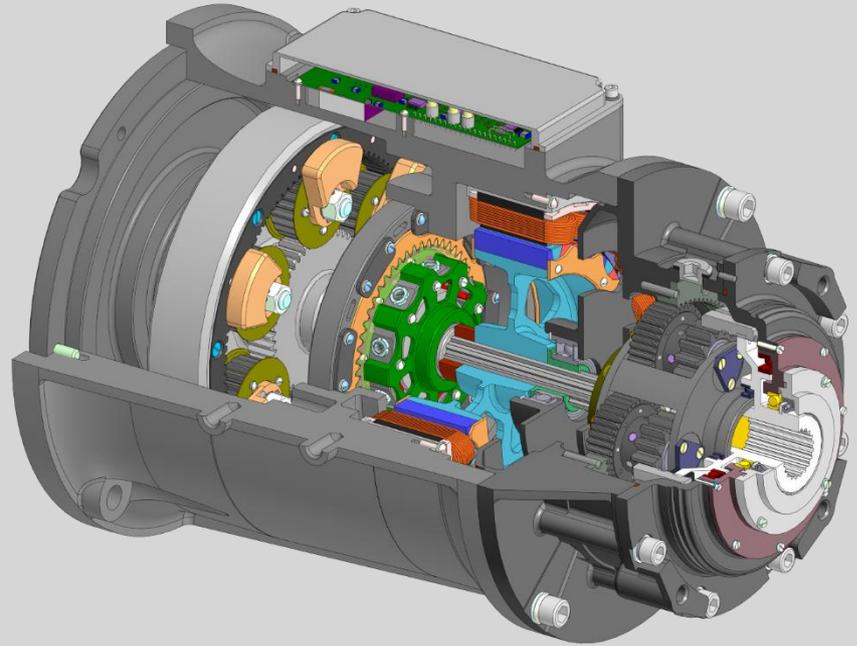


KOMPAS-3D



Key Functionality





35 years in the engineering software market

1 500+ employees in our team

500+ developers

30+ offices in Russia and the CIS

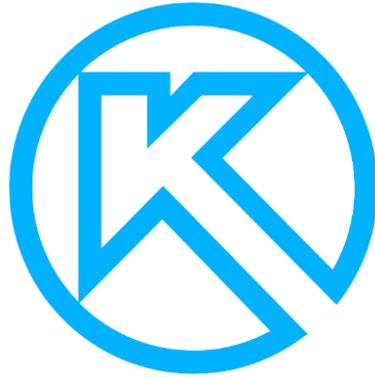
50+ partner companies in Russia and abroad

16 000+ corporate customers



16 000+

enterprises



150 000+

downloads

2 400+

educational institutions

400 000+

customers



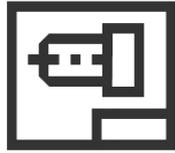
- 1. KOMPAS-3D components**
 - 2. Areas of application**
 - 3. Ease of use**
 - 4. Functionality**
 - 5. Performance**
- +**

1. KOMPAS-3D COMPONENTS

KOMPAS-3D Components



3D modeling
system



Drawing
editor



BOM
editor



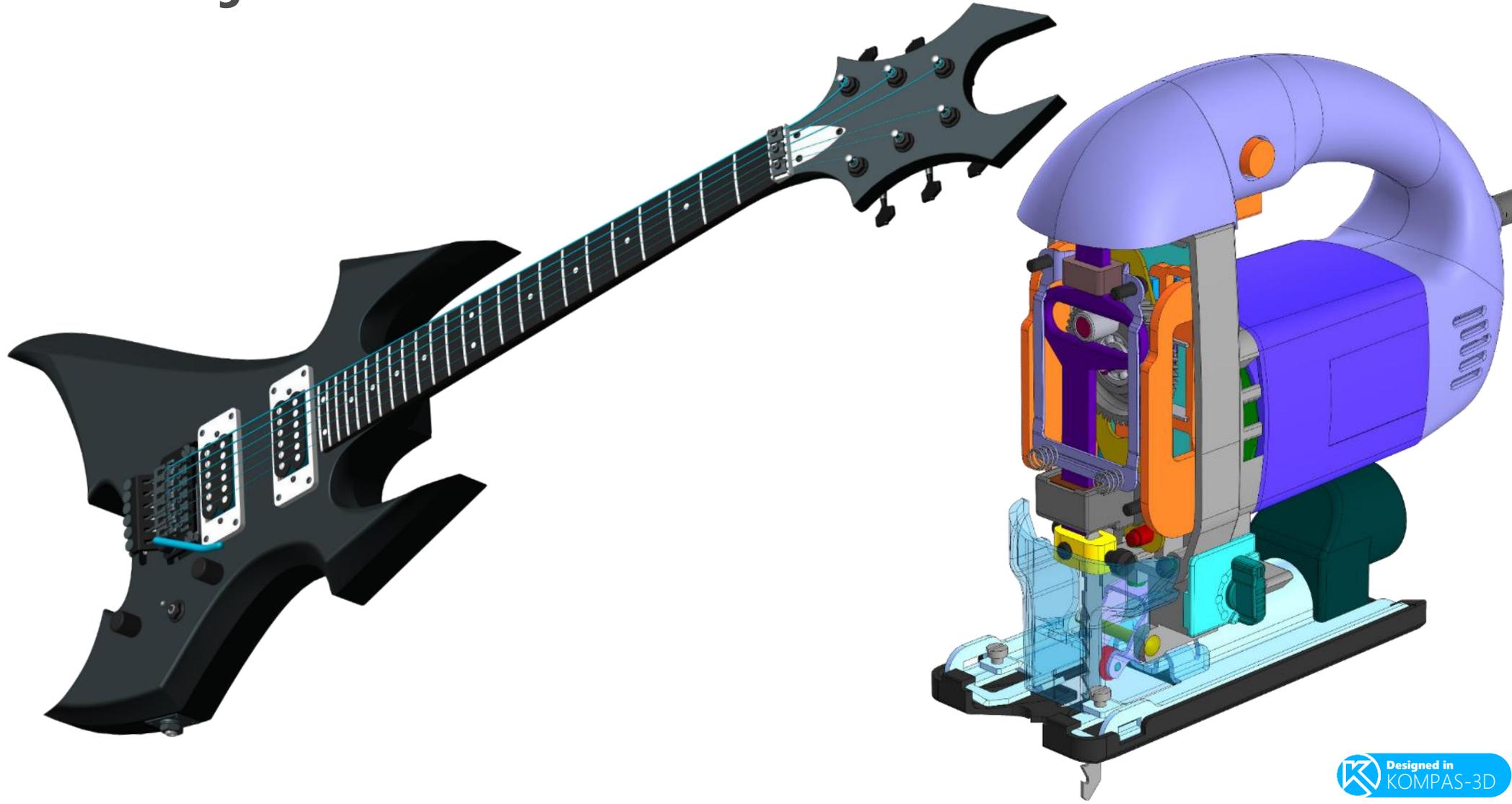
Text
editor



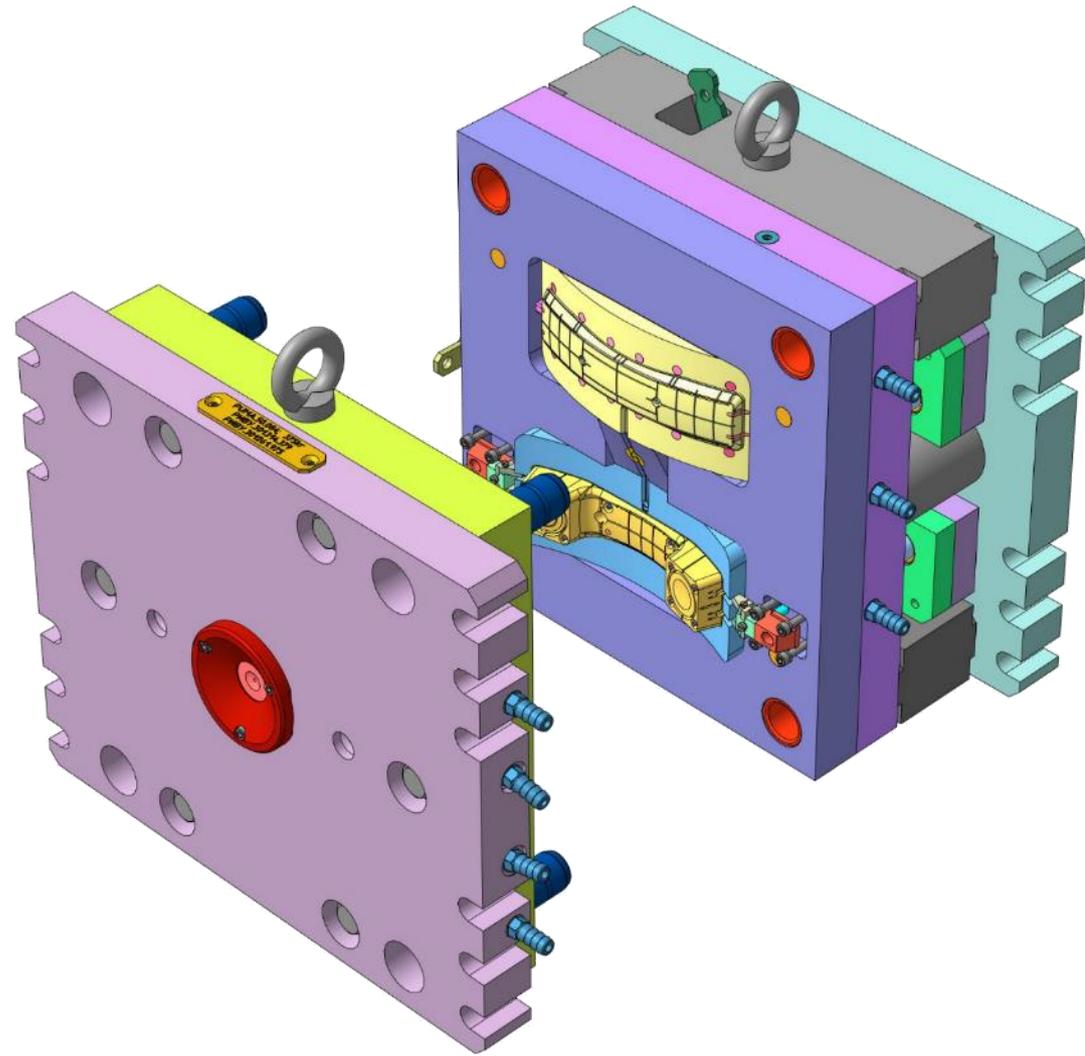
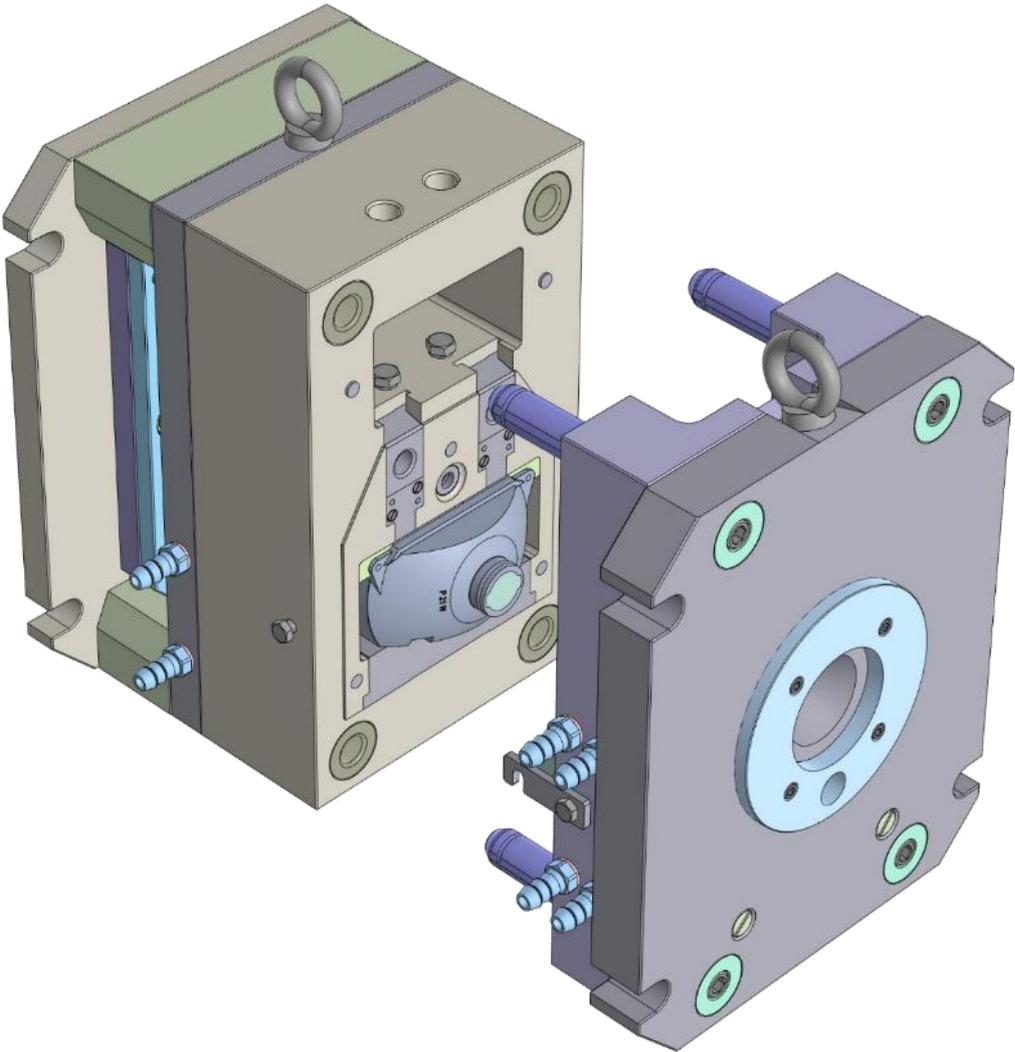
Add-Ons

2. AREAS OF APPLICATION

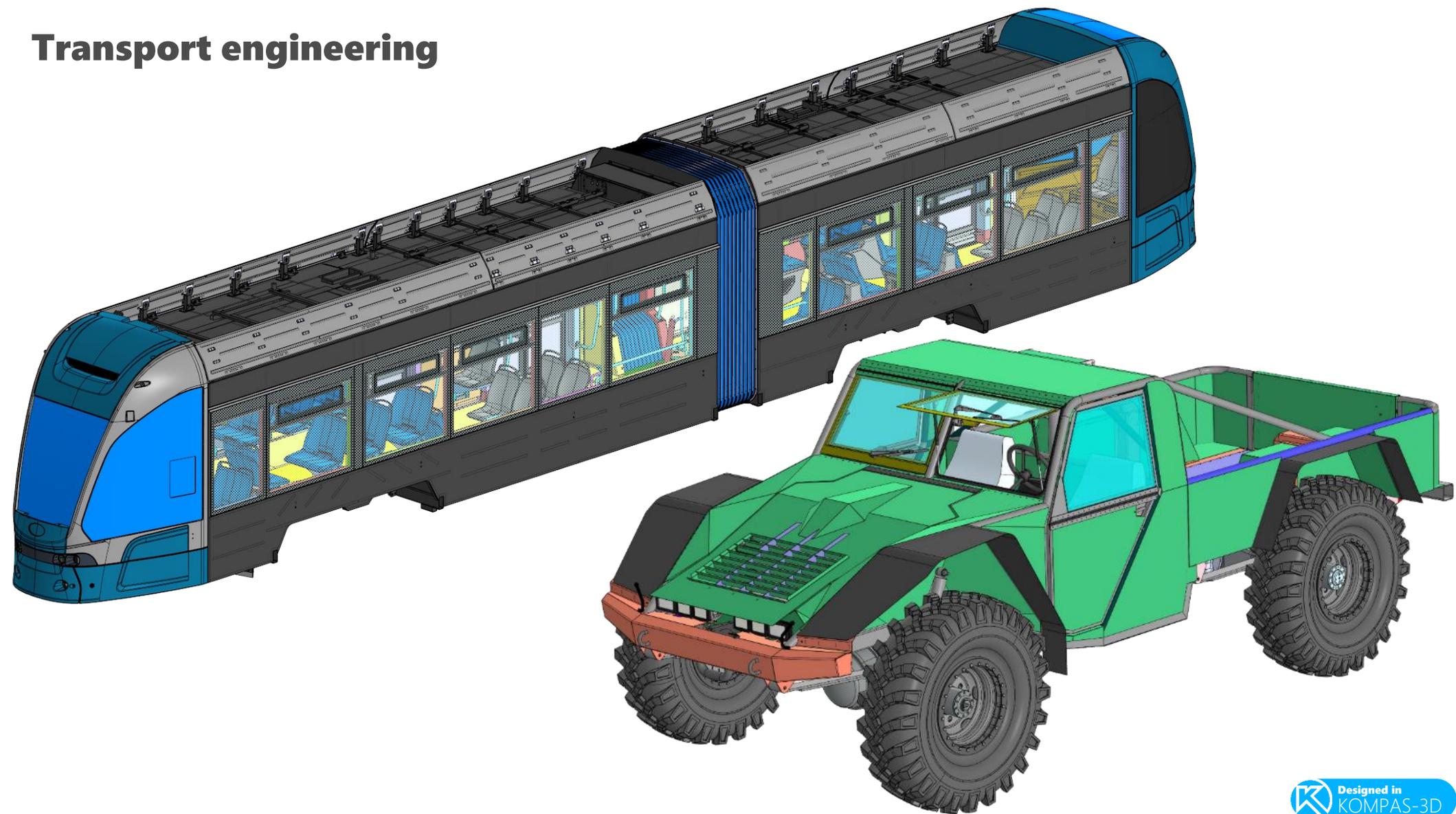
Consumer goods



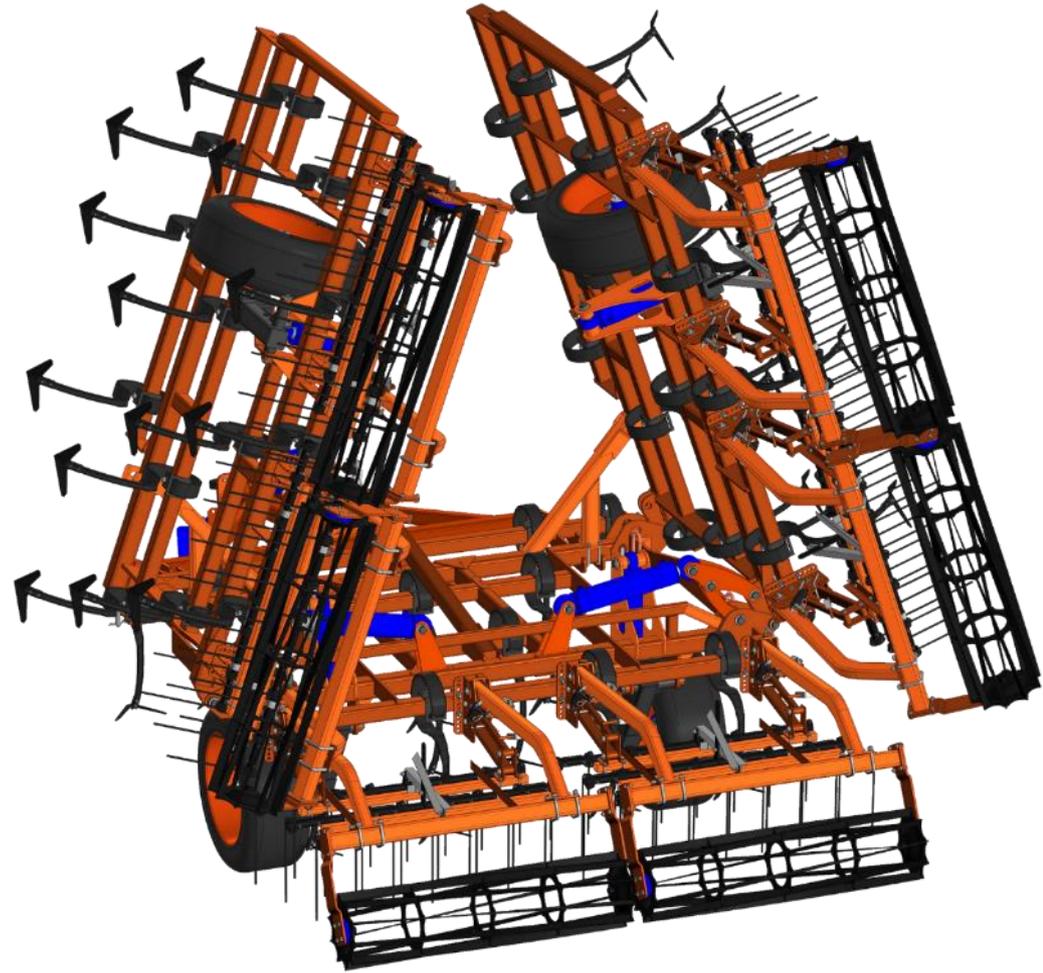
Tooling and tools



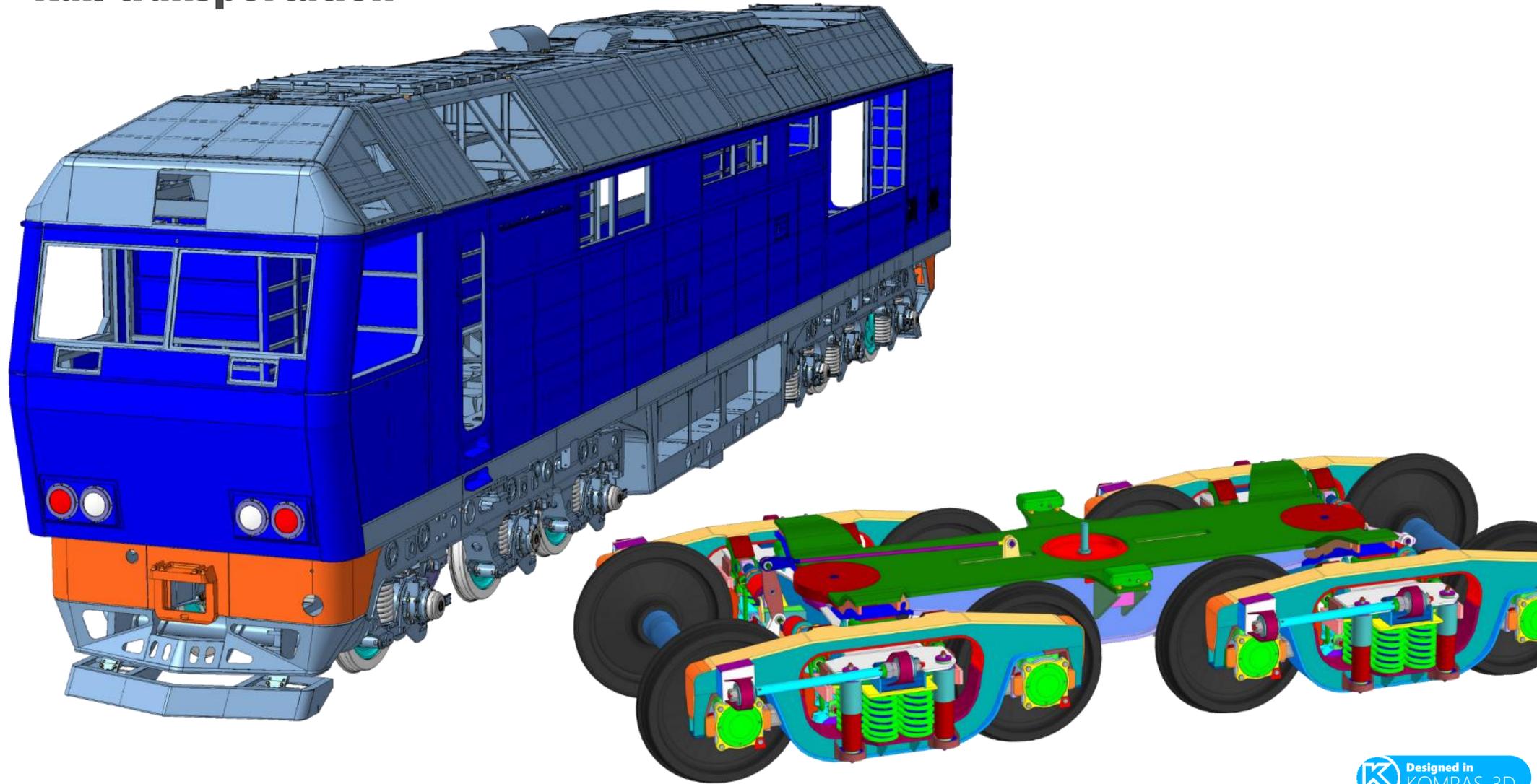
Transport engineering



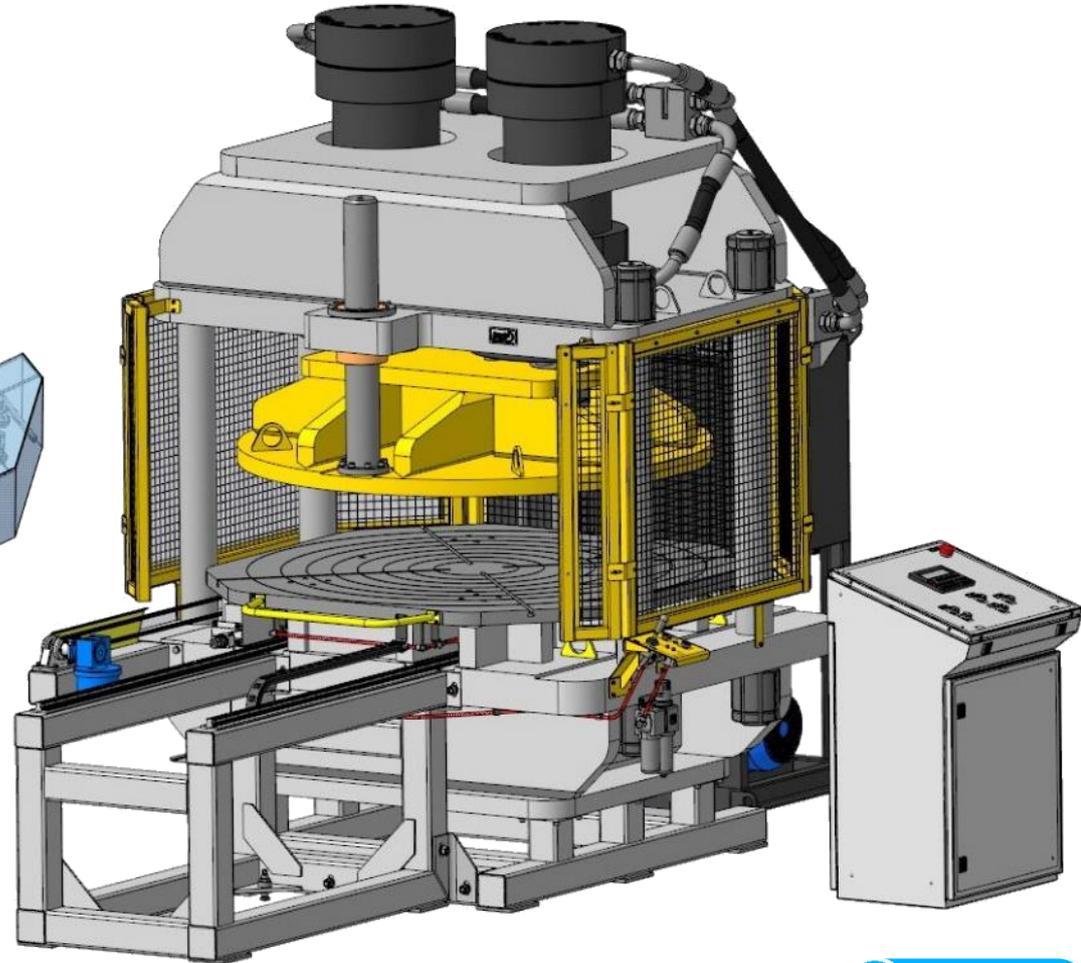
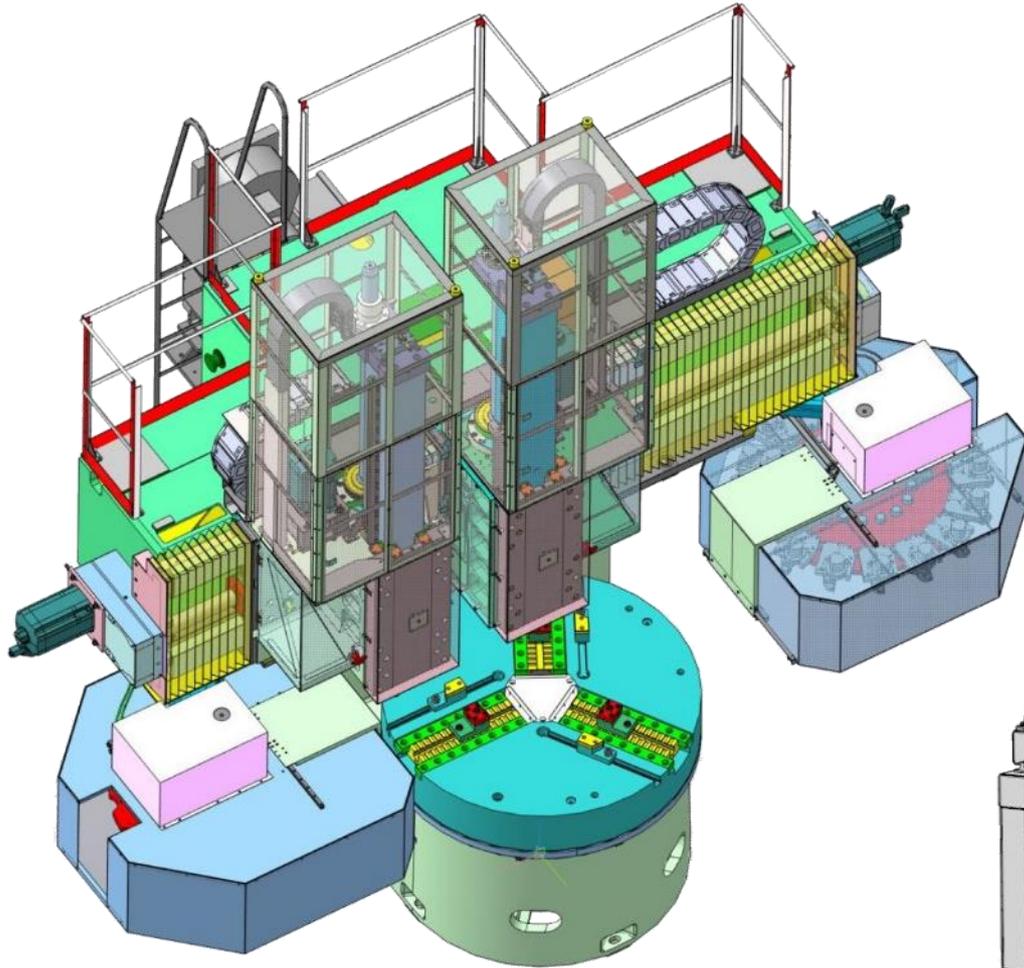
Agriculture



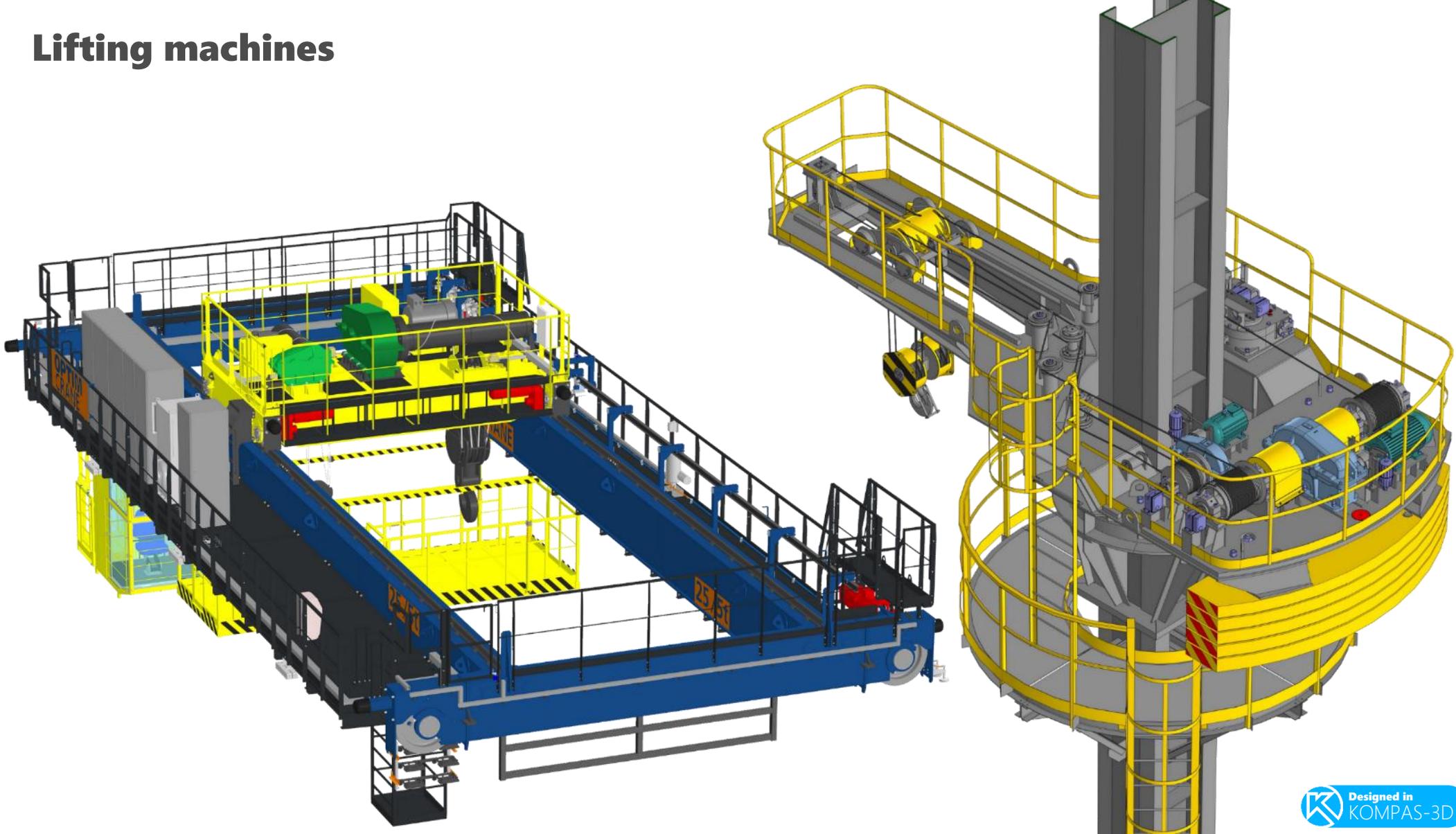
Rail transportation



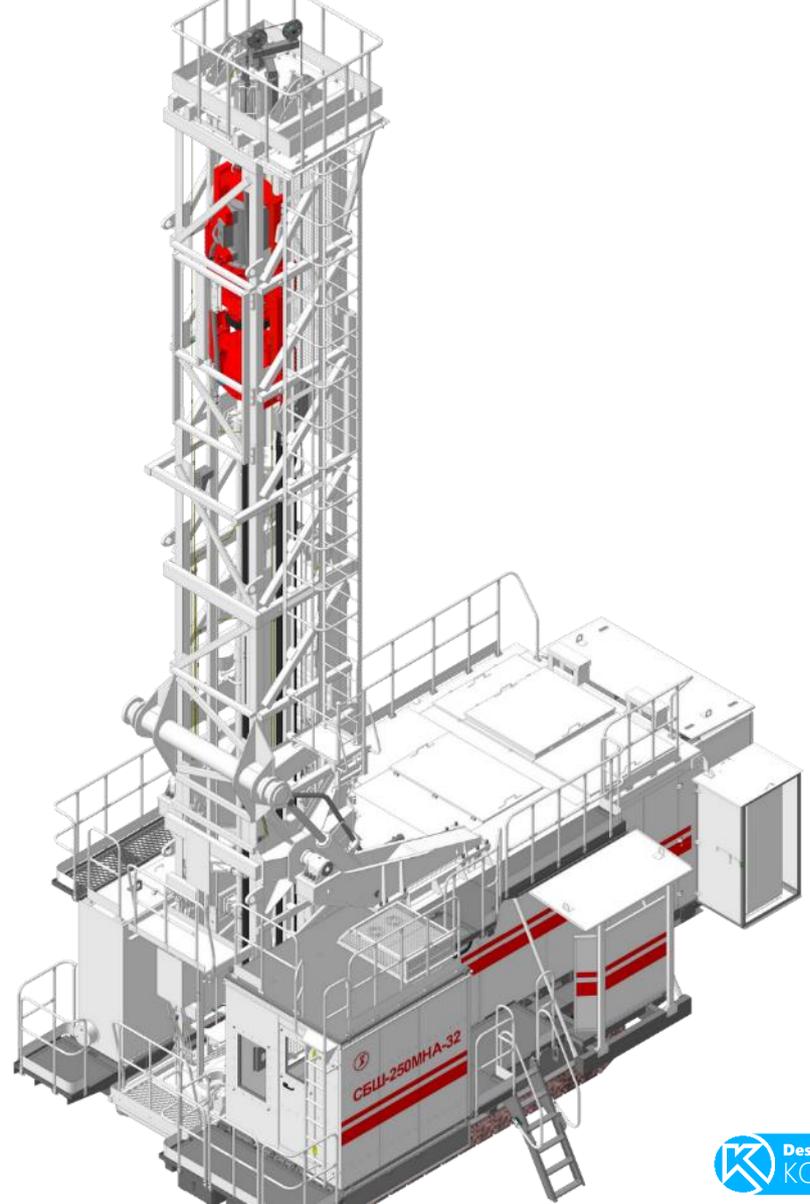
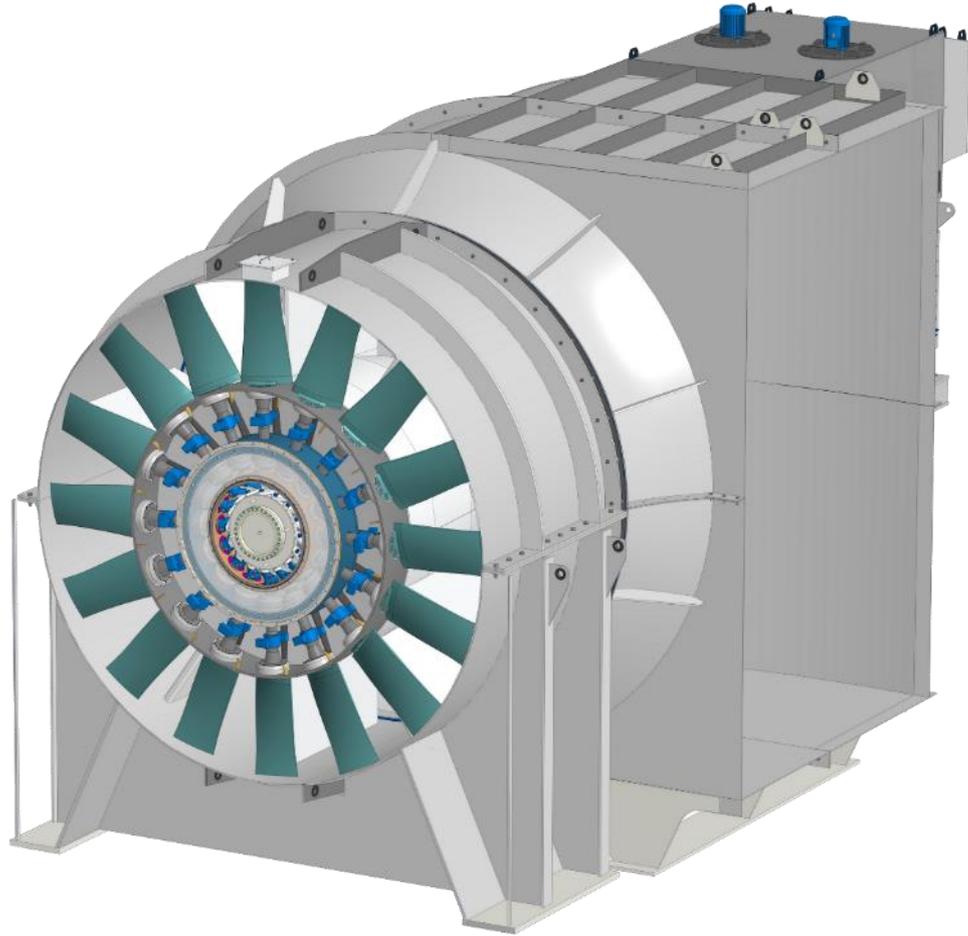
Machine tool industry



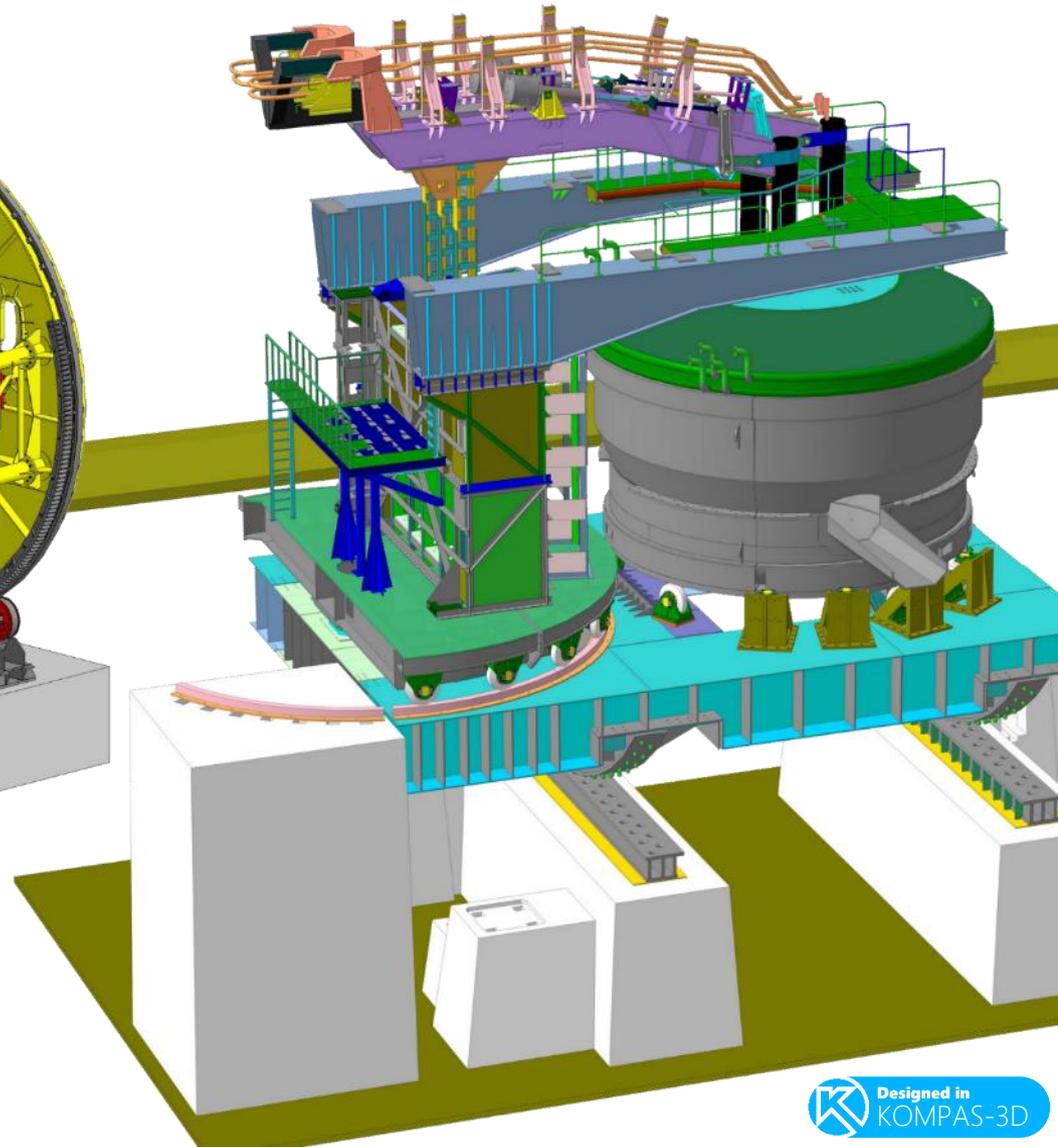
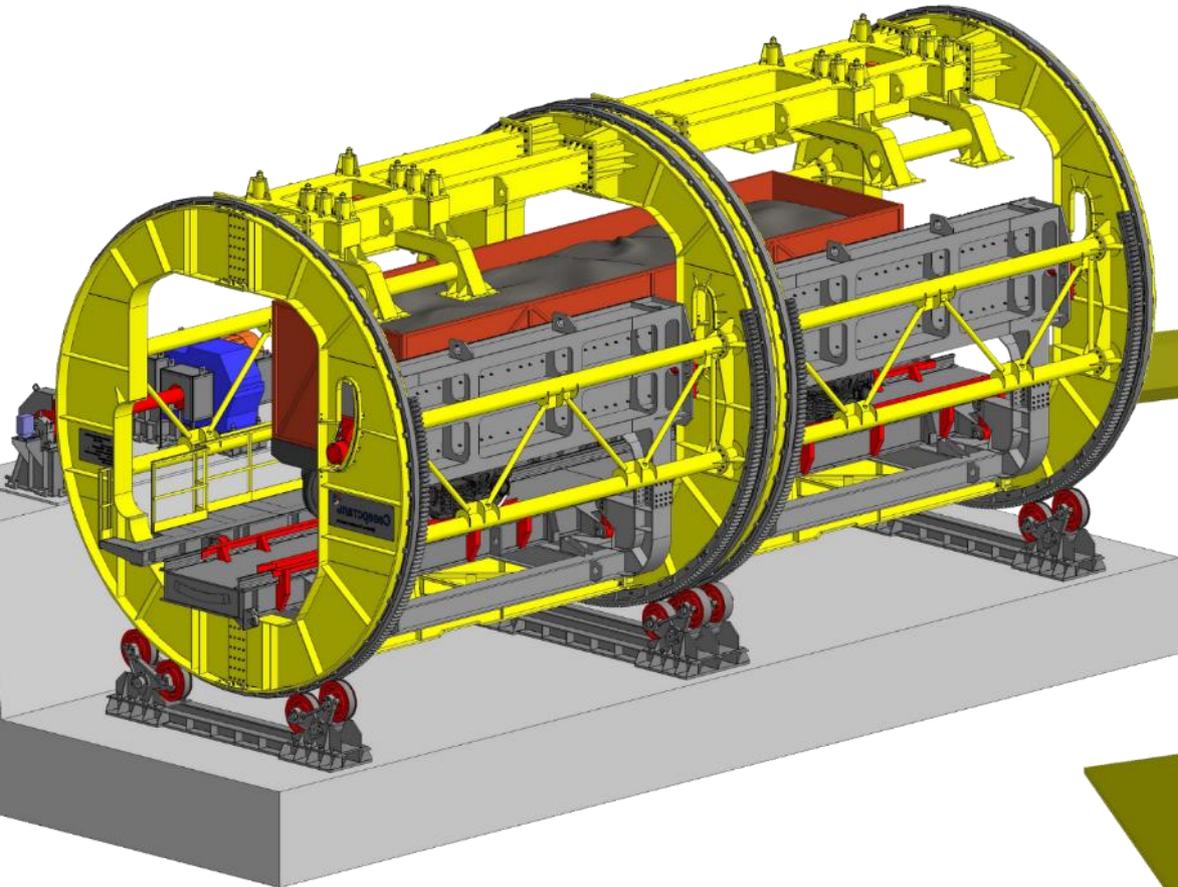
Lifting machines



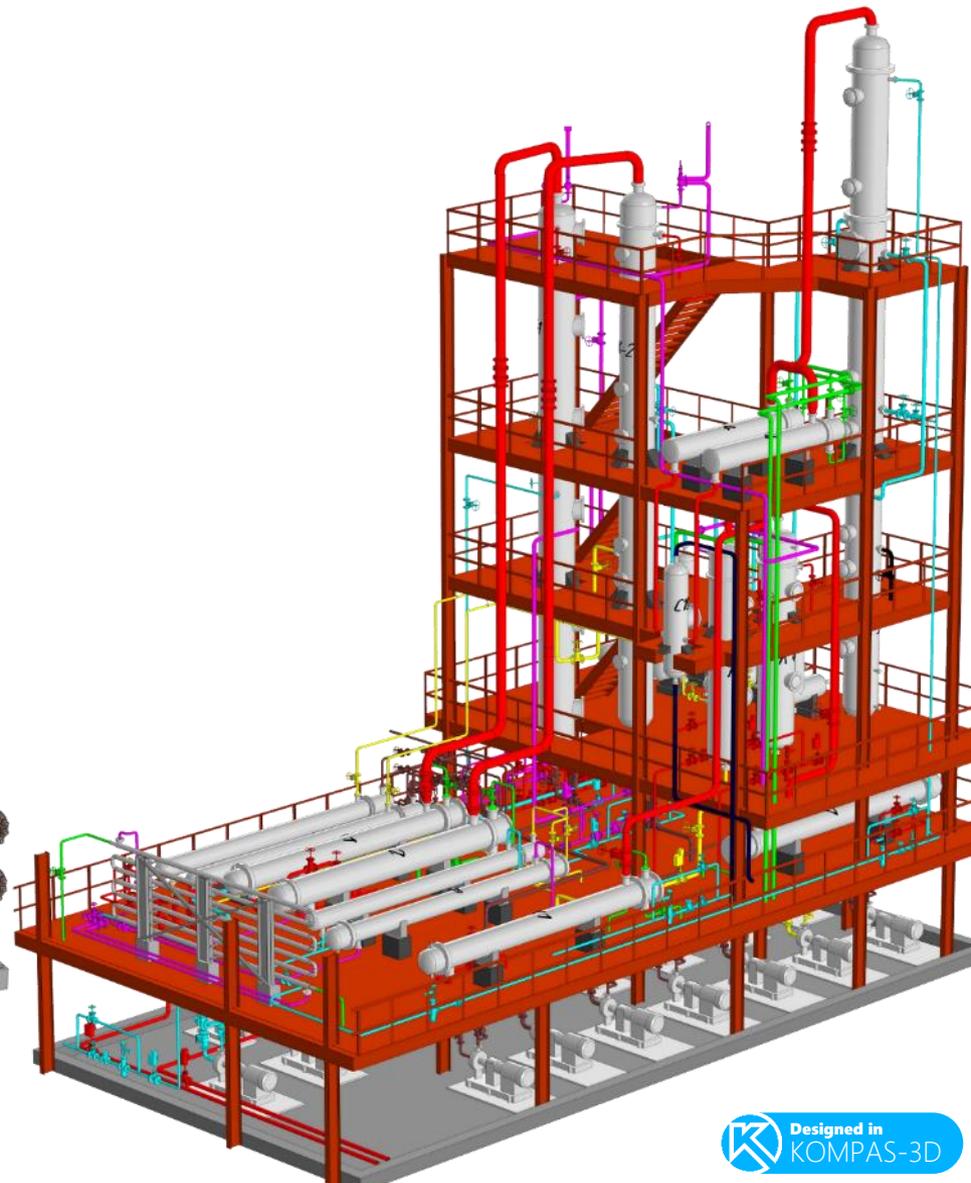
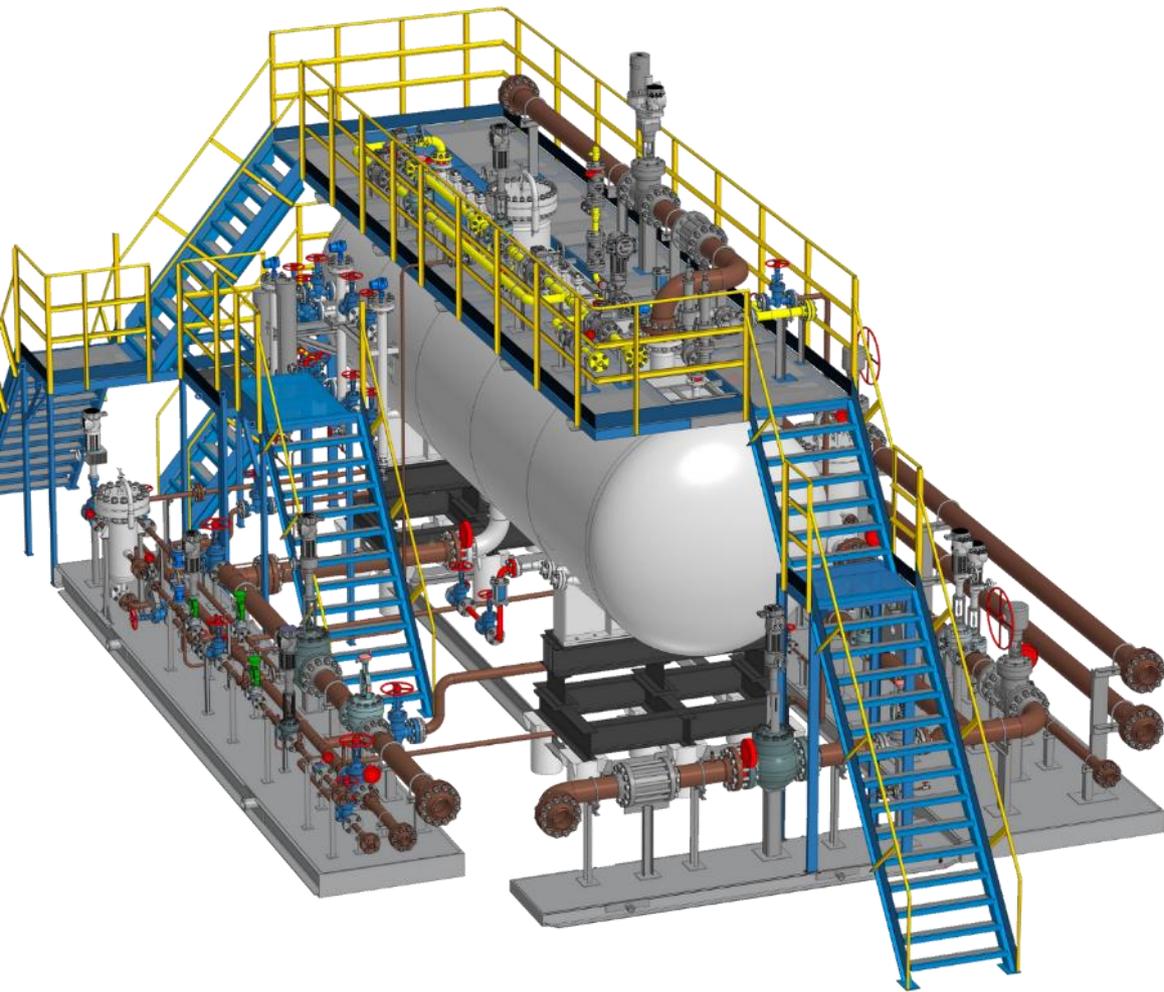
Mining



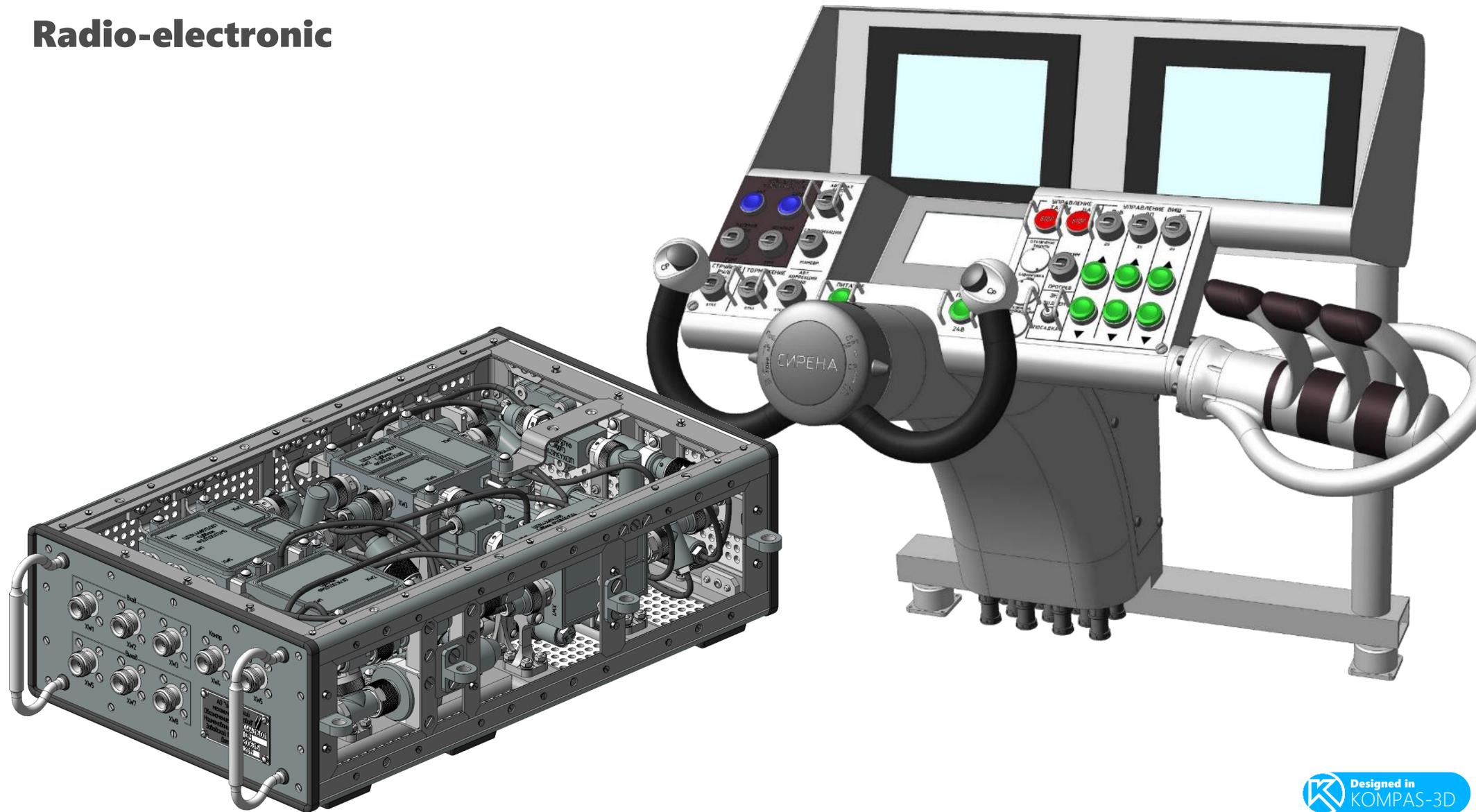
Metallurgy



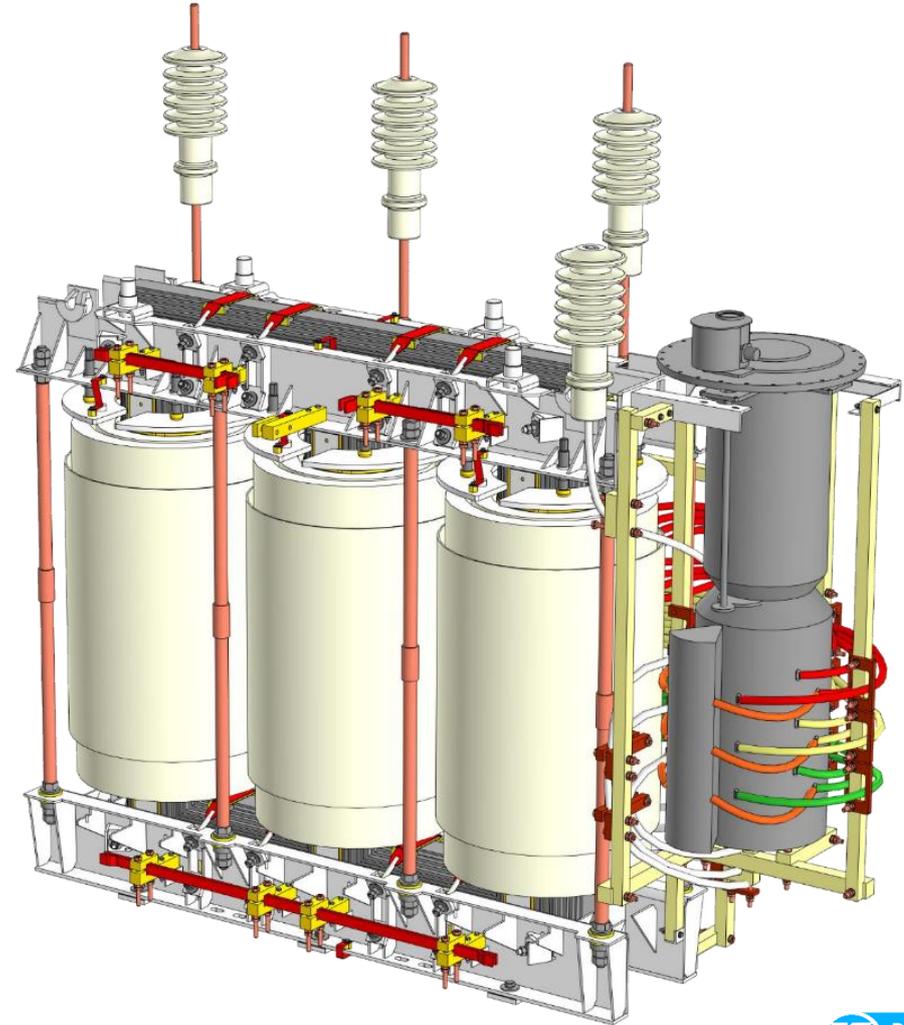
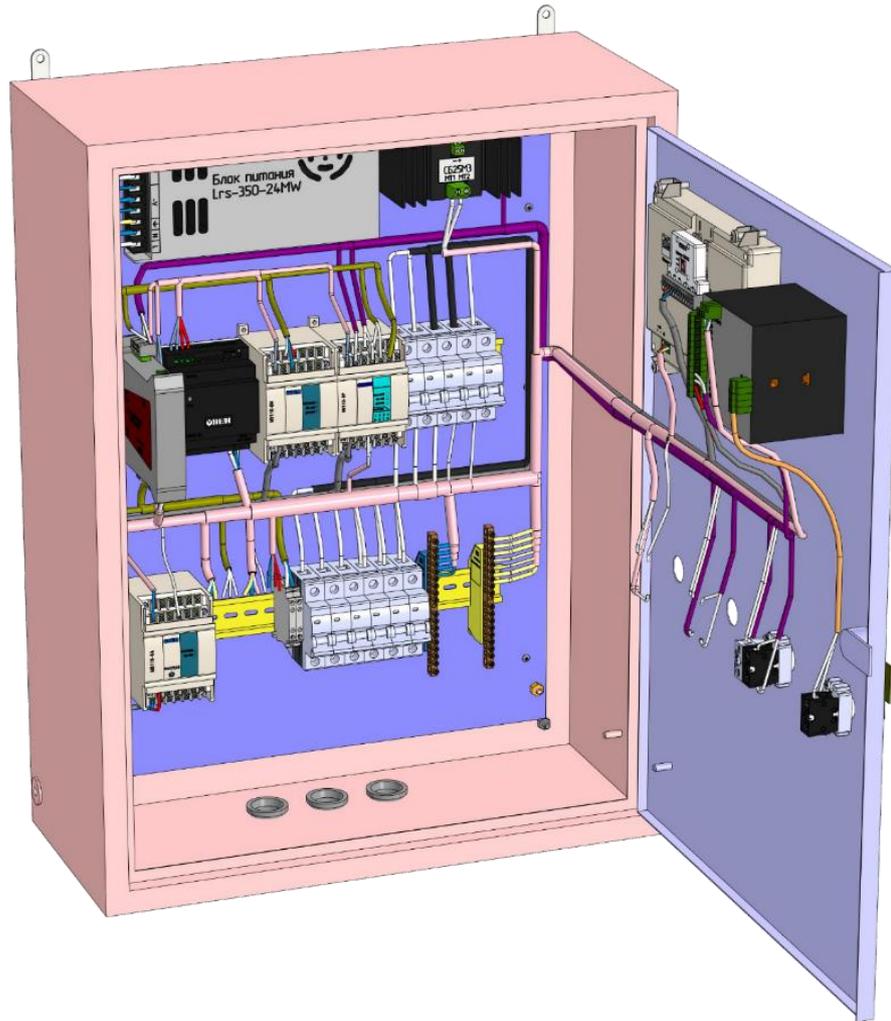
Oil and gas



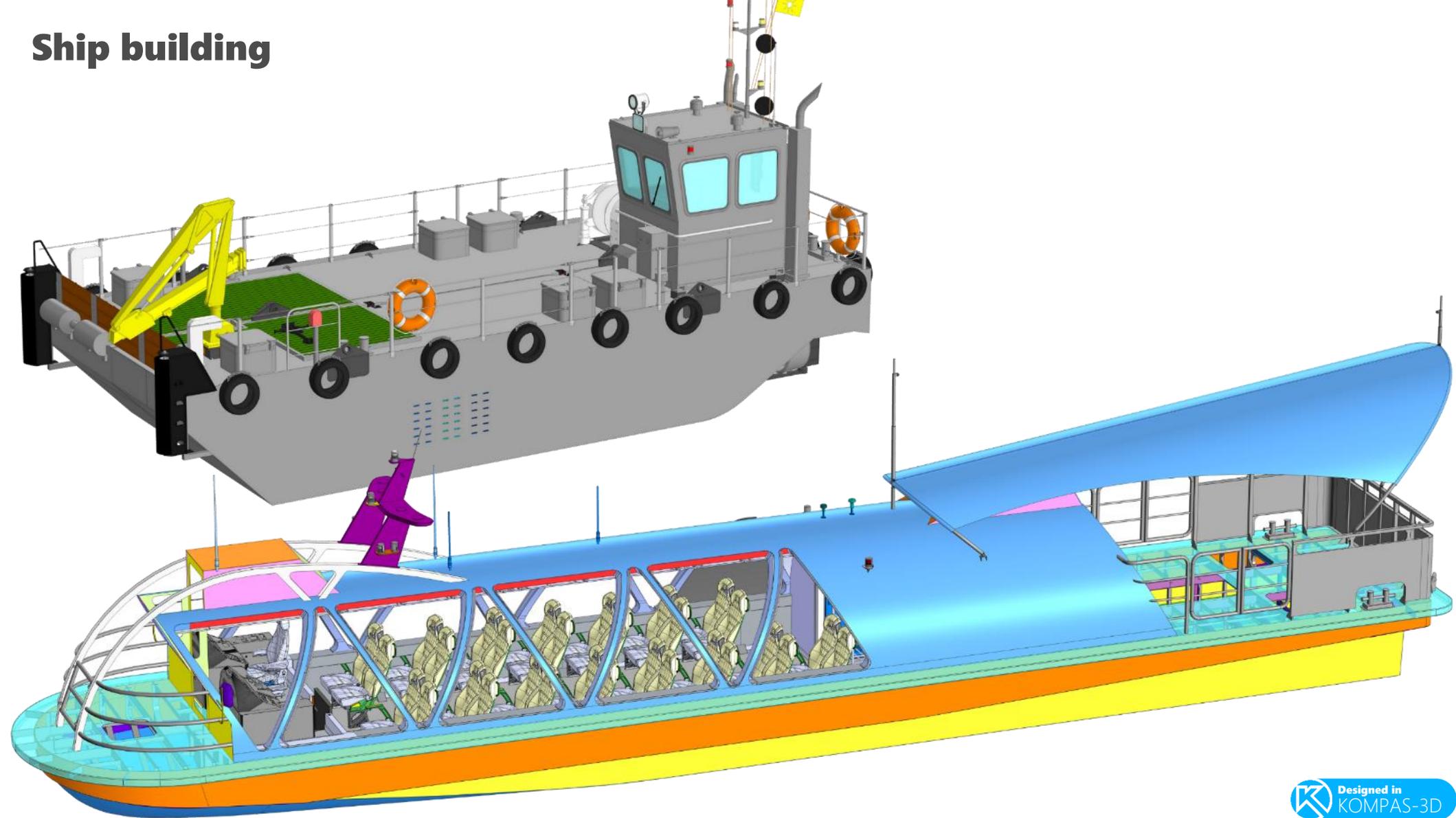
Radio-electronic



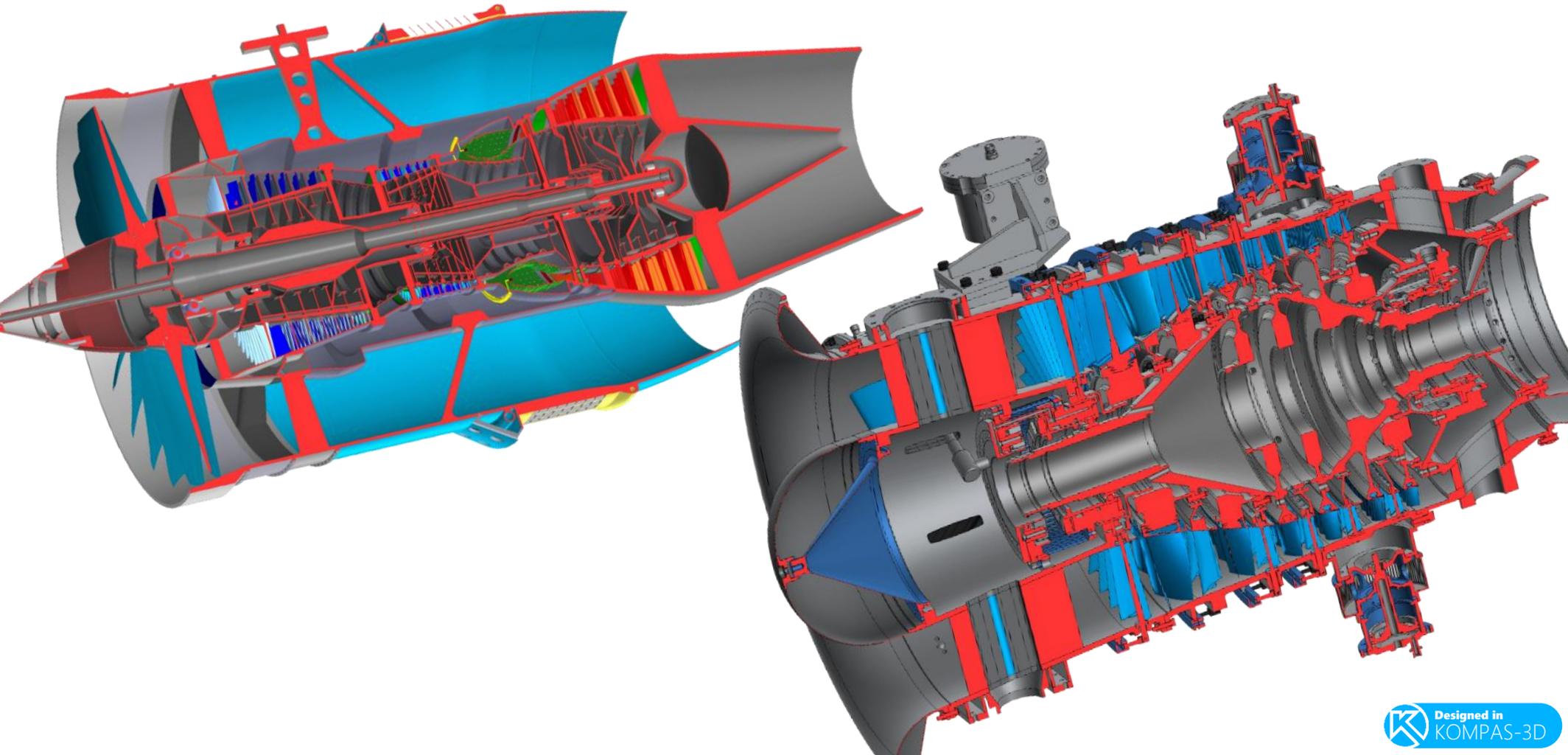
Electrical industry



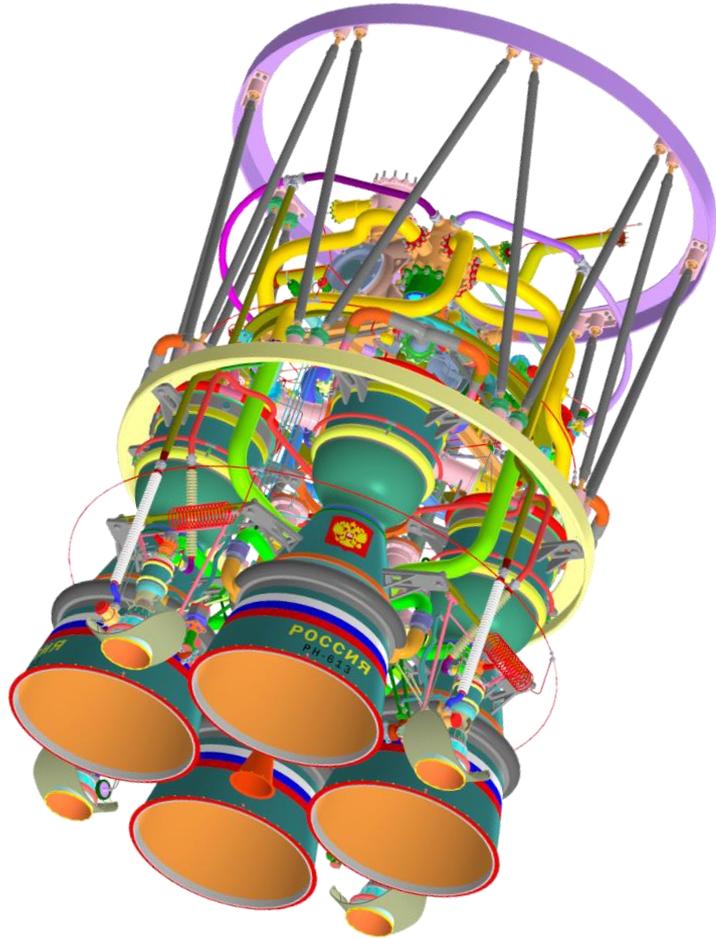
Ship building



Power generation



Aerospace and deference



More projects



1753

2023

БОБР

ООО «Кингисеппский машиностроительный завод»



50

2023

Модуль СПГ-КПГ

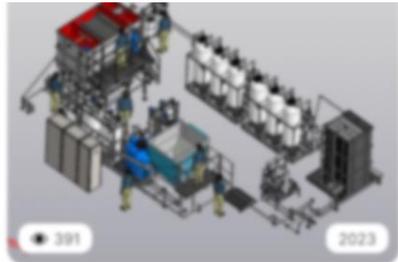
АО «Криогаз»



3207

2022

Модернизация оборудования участка



391

2023

Установка очистки производственно-дождевых стоков

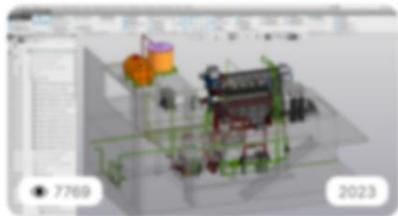
ООО «ТМ-Аква»



60

Утилизационный теплообменник УТ-112 для энергоблока ЭГЭС-12С

ЗАО «УЭМЗ»



7769

2023

Дизельный электрогенератор 15Д100, установленный в ячейке

ООО «Кингисеппский машиностроительный завод»



141

2023

Колонна стабилизационная ТОО «ЭОН Энерджи»



353

2023

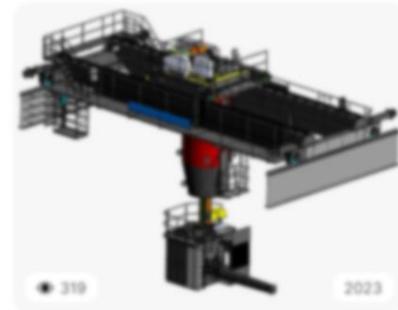
Модернизированный СБШ-250МНА-32 с двухсепараторной мачтой

ООО «ГМК-Рудгормаш»



2610

2022



319

2023

Кран мостовой мულдозавалочный г/п 3,2 т

АО «Великолукский опытный машиностроительный завод»

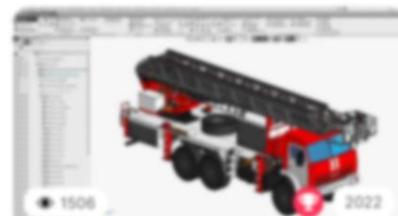


592

2023

Ecobus

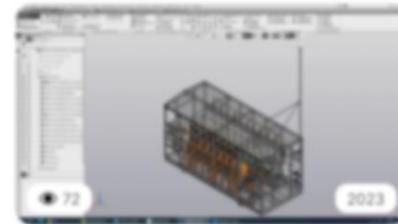
ООО «Экспертуз»



1506

2022

АО «ТТ» (АО «ТТ»)

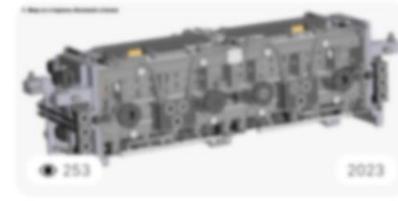


72

2023

БА1-02.00.00.000 - Блок арматурный

ООО «НПВ «ВИСМА»

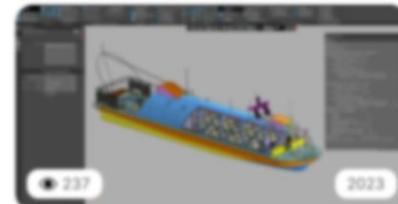


253

2023

Кристаллизатор МНЛЗ

ГНЦ ВГУП «СРБИ» им. И.Л. Бардина»



237

2023

Пассажирское судно «Соталия»

АО НВТТС «Омега»

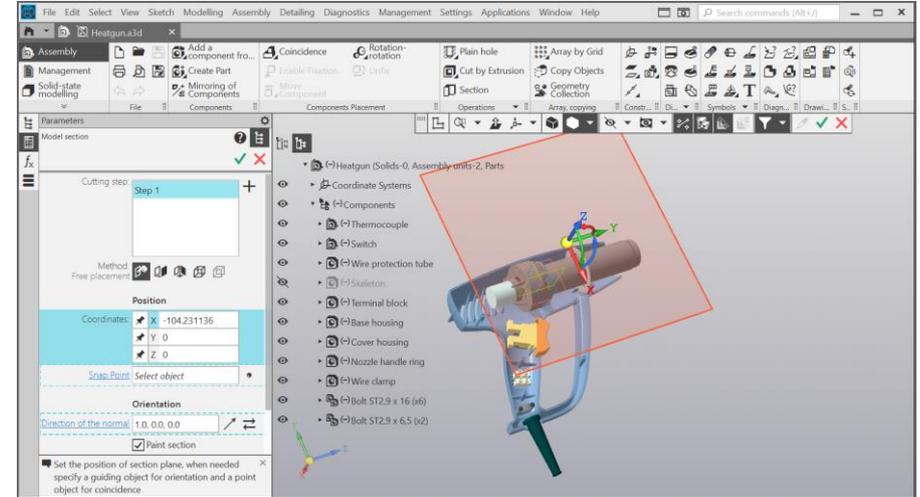
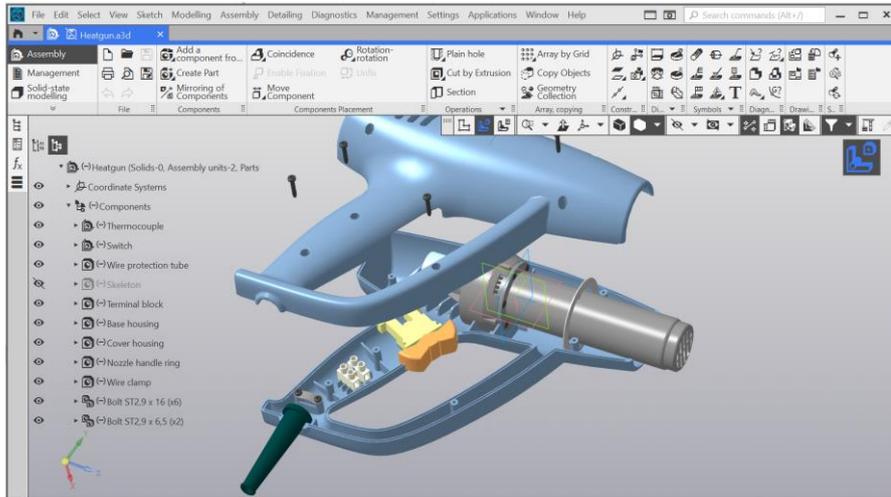


3. EASE OF USE



KOMPAS-3D interface

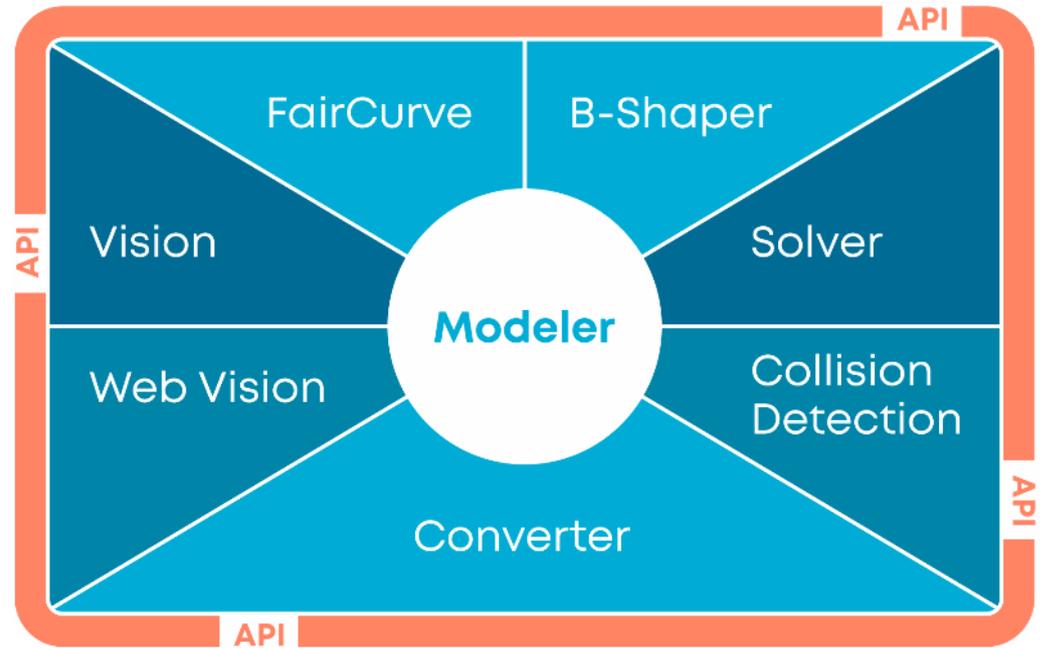
- The easy-to-learn and use features of Kompas-3D provides a unique experience for beginners in computer-aided drafting and modelling
- Designers work quickly and comfortably with its convenient and intuitive interface



4. FUNCTIONALITY

KOMPAS-3D based on Russian geometric kernel

- Geometric core
- Parameterization
- Converters
- Modeling F-class curves
- Converting polygonal models to solid-state models
- Finding collisions in the model
- Visualization
- Web visualization



Types of modeling



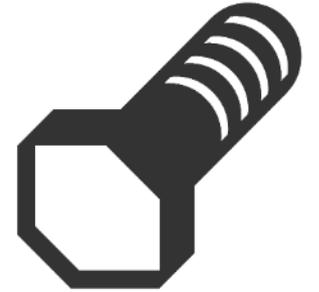
Solid



Advanced surfaces
and
3D sketching



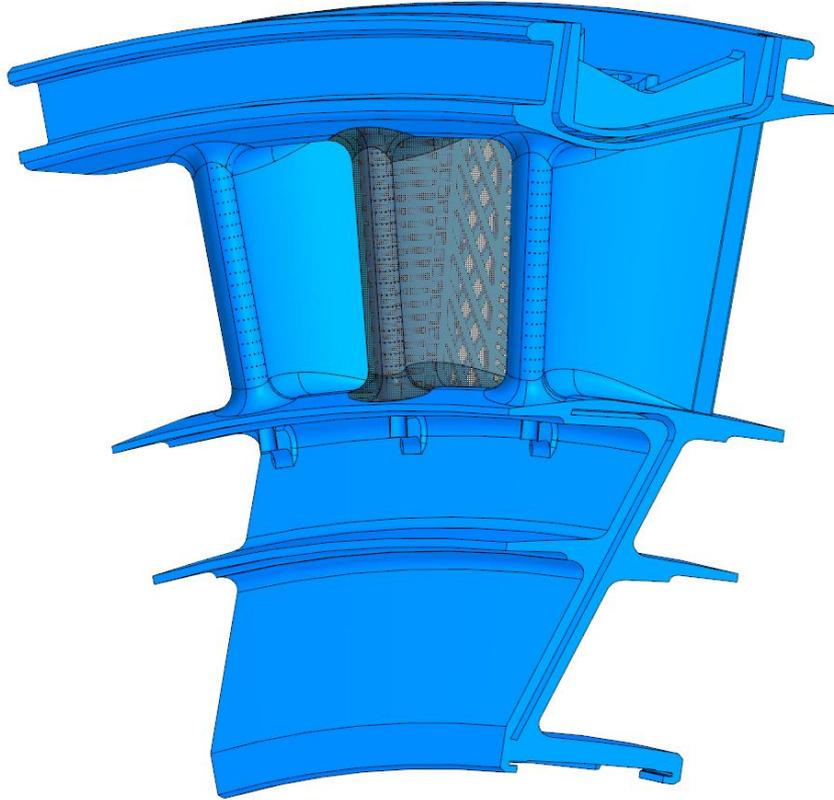
Sheet metal



Object-based

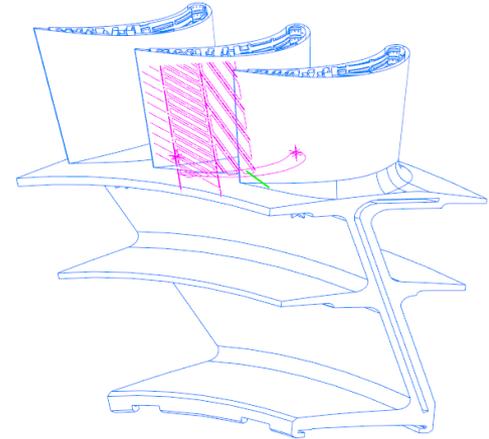
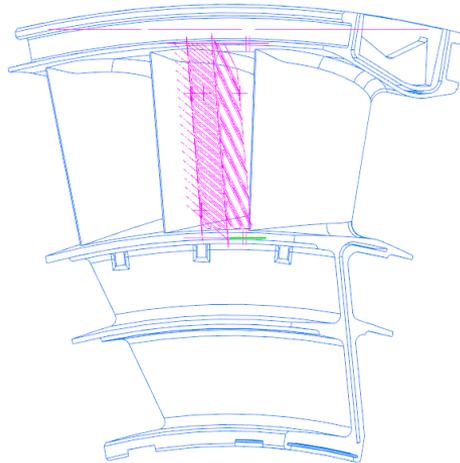
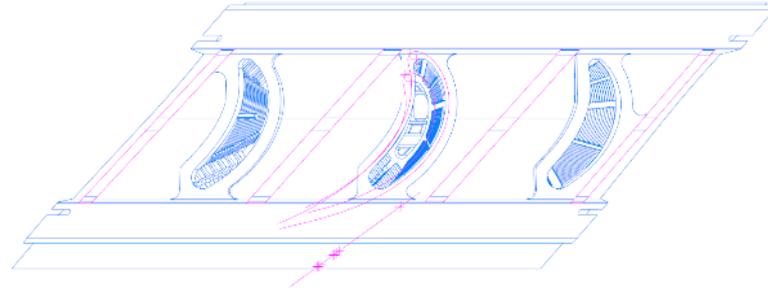
Advanced Surface Modelling and 3D Sketching

- Points
- Lines
- Arches
- Splines
- Spirals
- Rounding off
- Outlines
- Crossing curve
- On two projections
- Projective
- Isoparametrical
- Under the law
- Equidistance



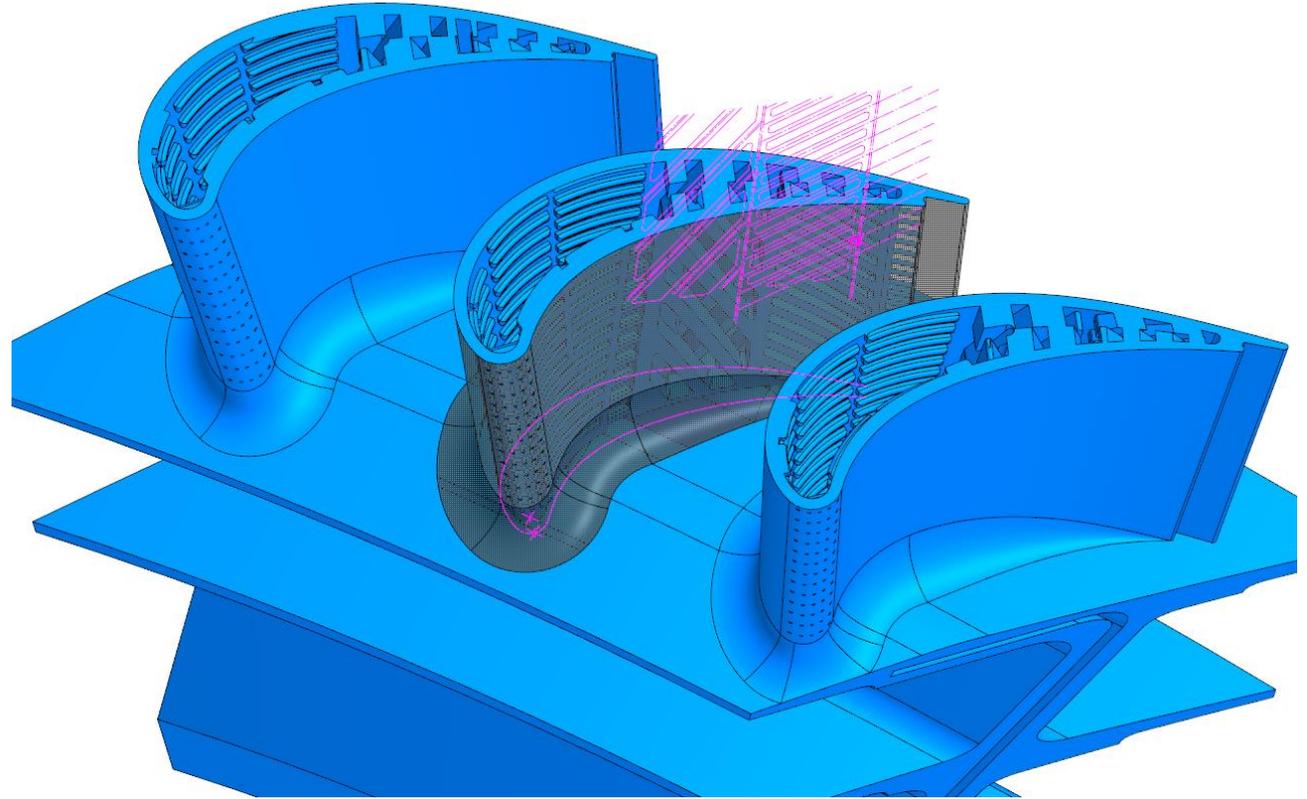
Advanced Surface Modelling and 3D Sketching

- Extrusions
- Rotations
- By cross sections
- Along the path
- "Patch"
- Linear
- By the curve network
- By the network of points
- Equidistant
- Connections
- Conical section
- Imported



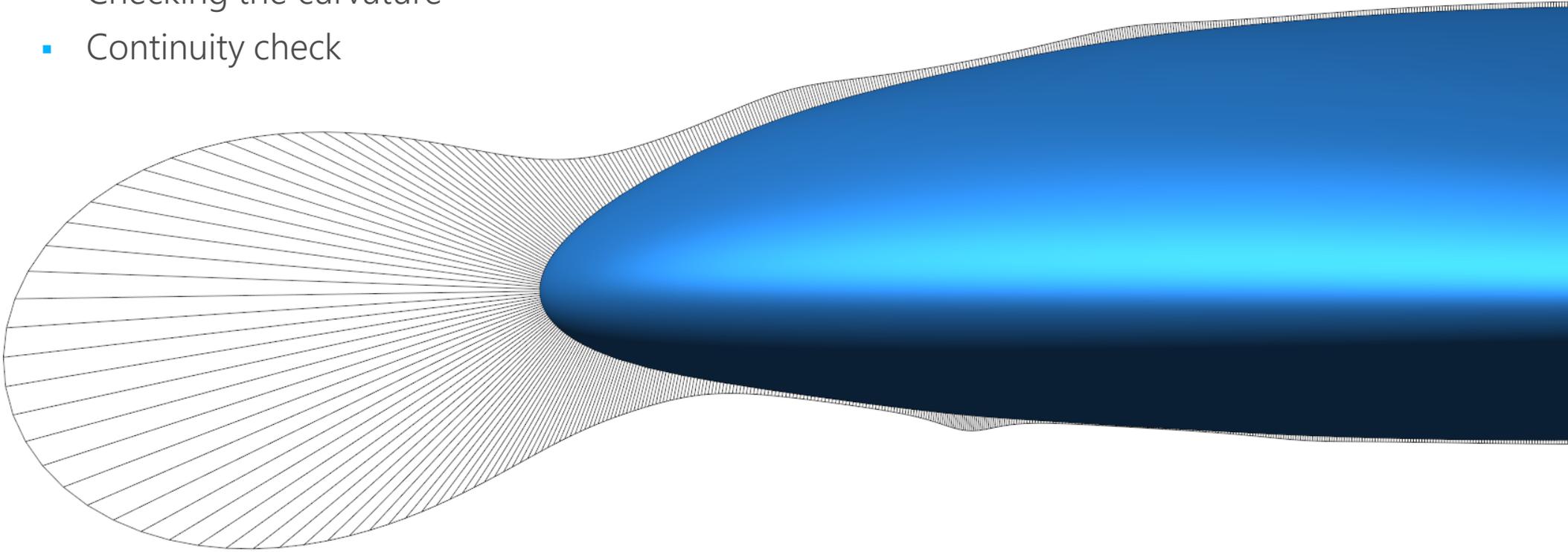
Advanced Surface Modelling

- Add thickness
- Crosslink



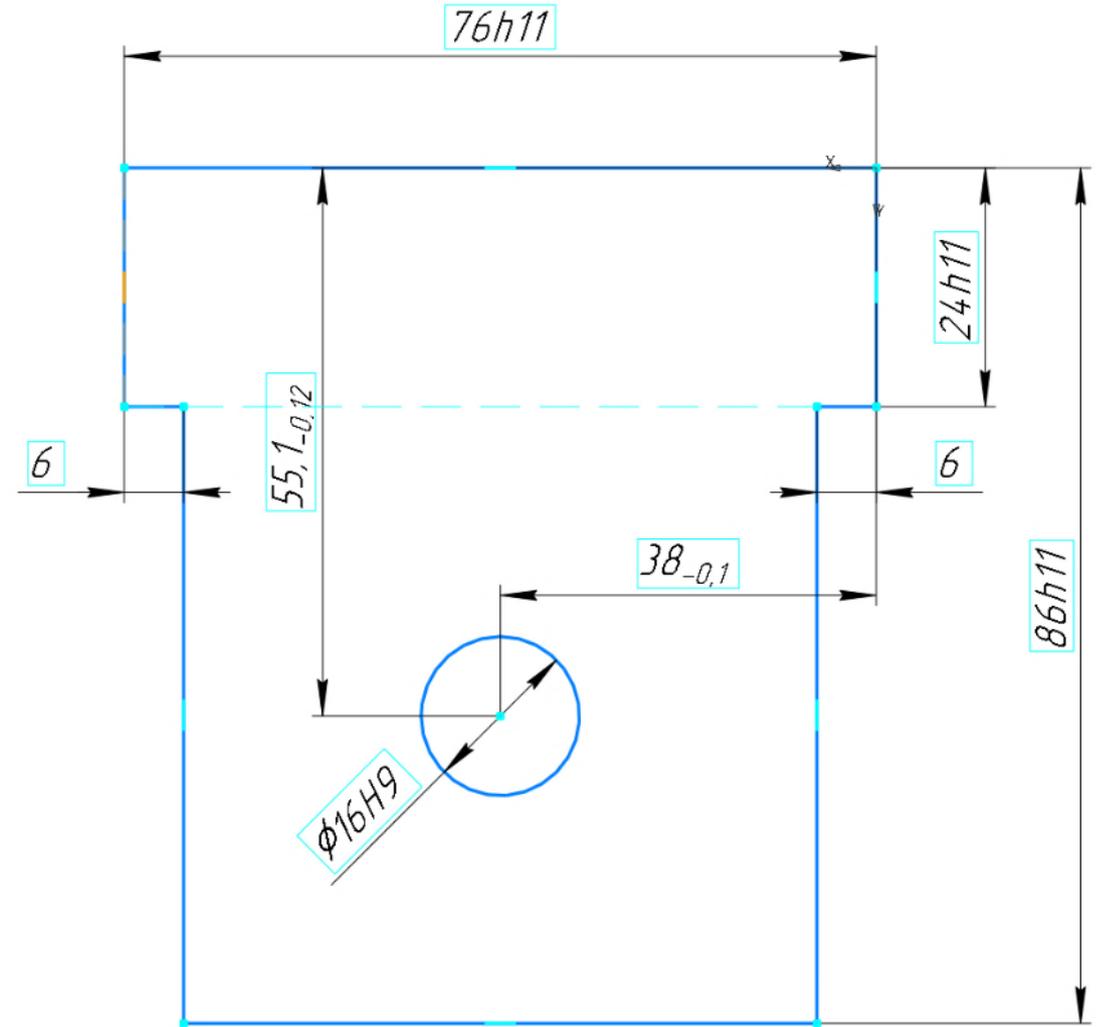
Curve and surface analysis

- Curvature graph
- Checking the curvature
- Continuity check



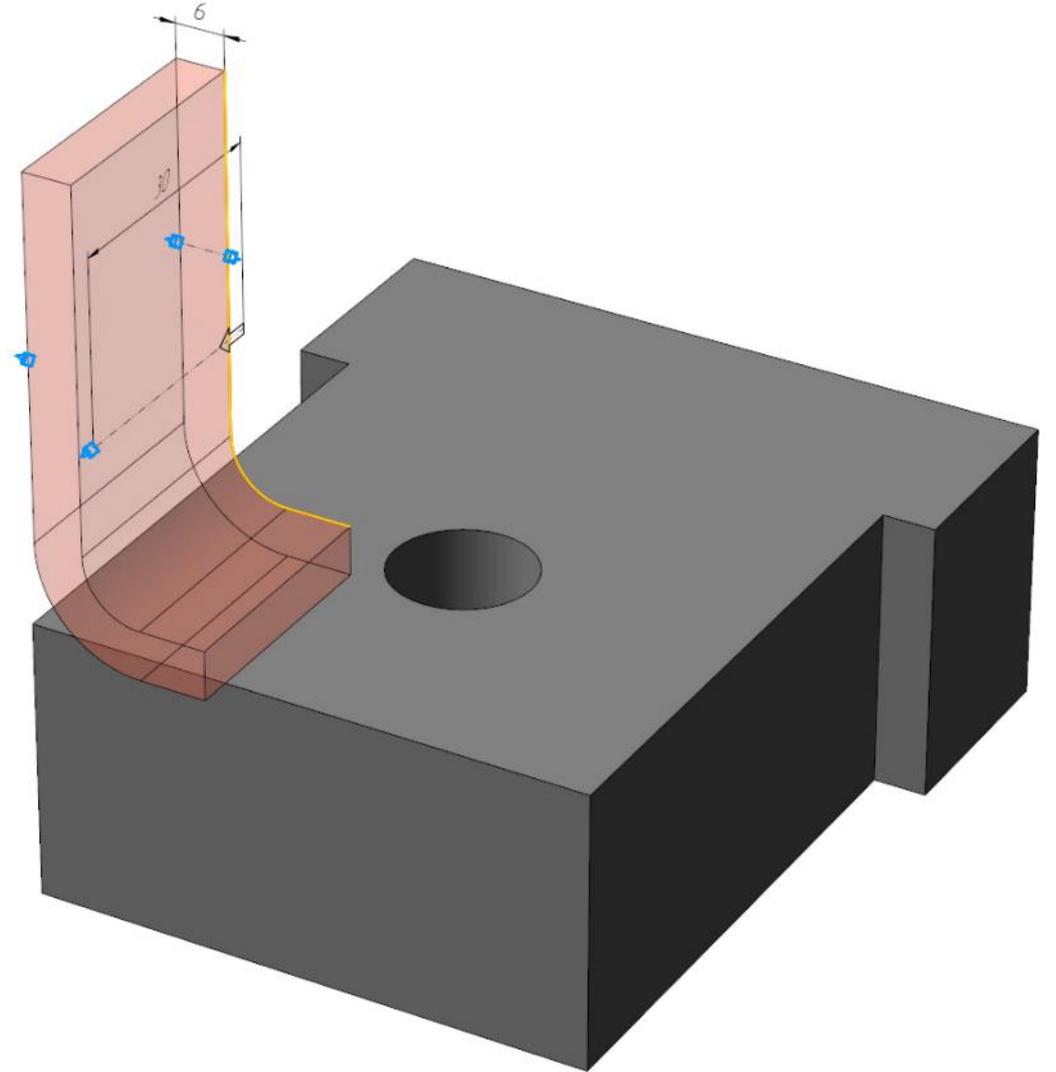
Solid Modelling

- Points
- Auxiliary lines
- Segments
- Circles
- Ellipses
- Arcs
- Rectangles
- Polygons
- Polylines
- Curves
- Equidistant



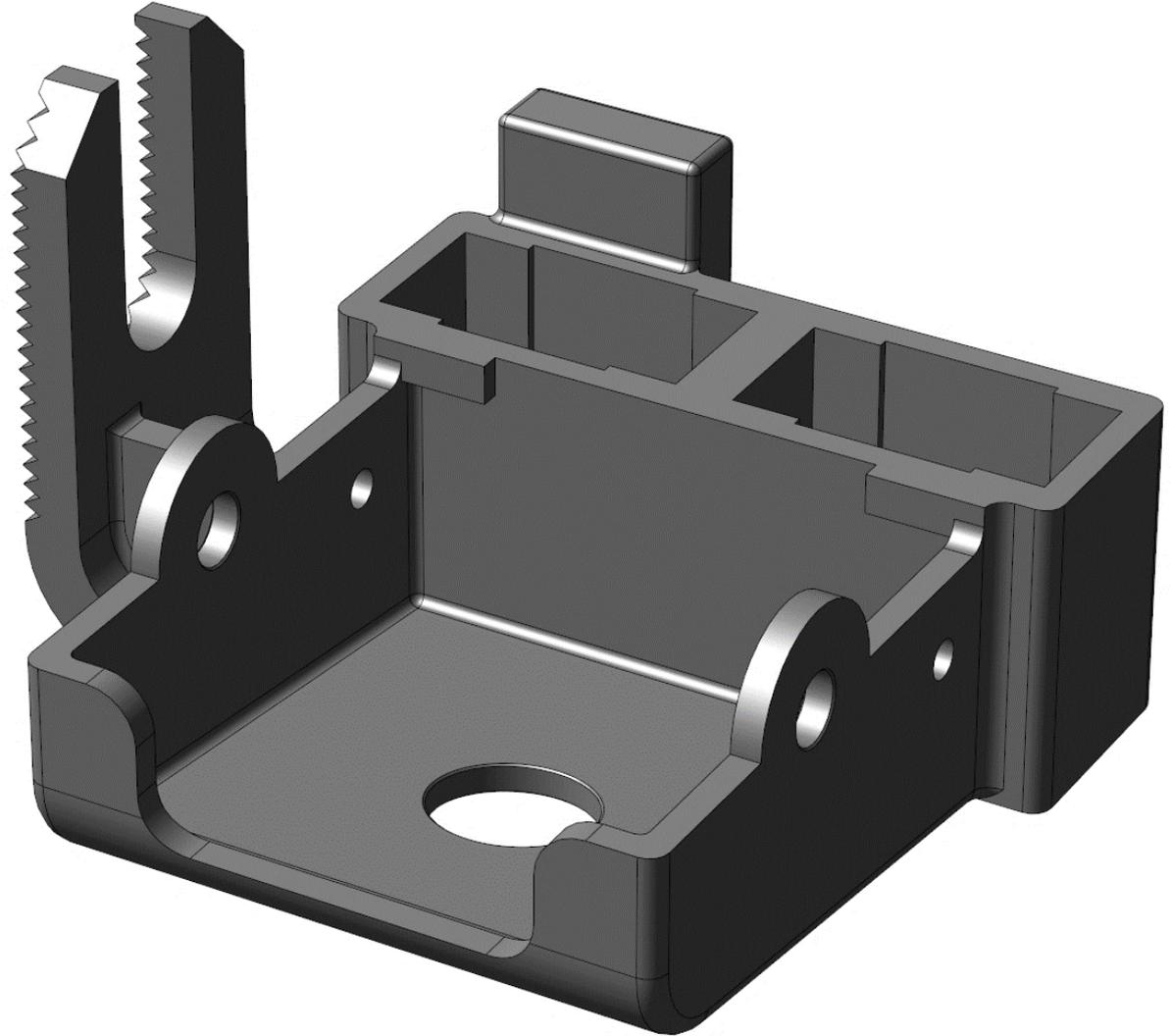
Solid Modelling

- Extrusion
- Rotation
- Along the path
- Loft by sections
- Part-blank
- Adding thickness
- Cross-linking



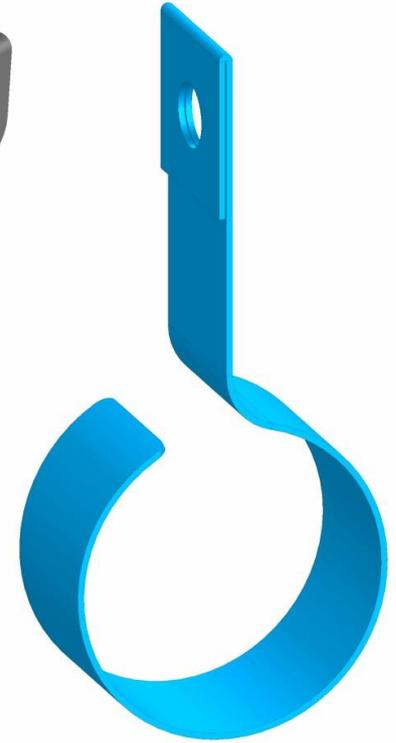
Solid Modelling

- Chamfering/rounding
- Shell
- The stiffener
- The slope of the faces
- Holes
- Cutouts
- Boolean operations
- Arrays
- Separation into parts
- Free face edit



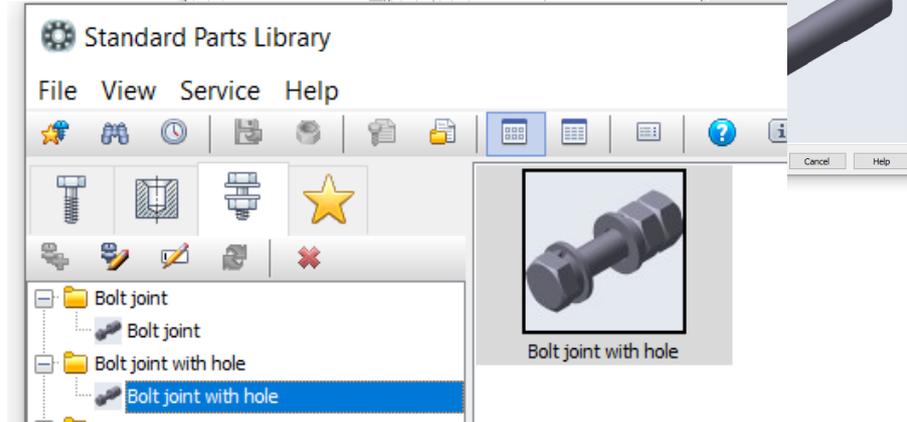
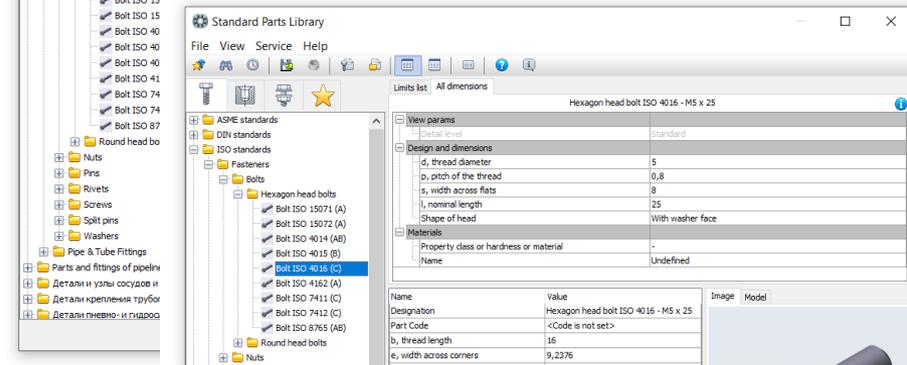
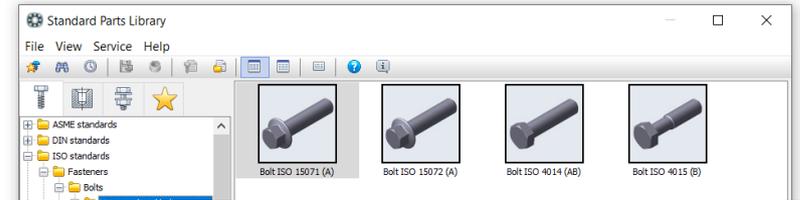
Powerful Sheet Metal Functions

- Linea Surfaces
- Bends
- Louvers
- Fillets
- Punching (stamping)
- Reinforcement edges
- Conversion to a Sheet Metal body
- Folding/Unfolding
- Flat pattern

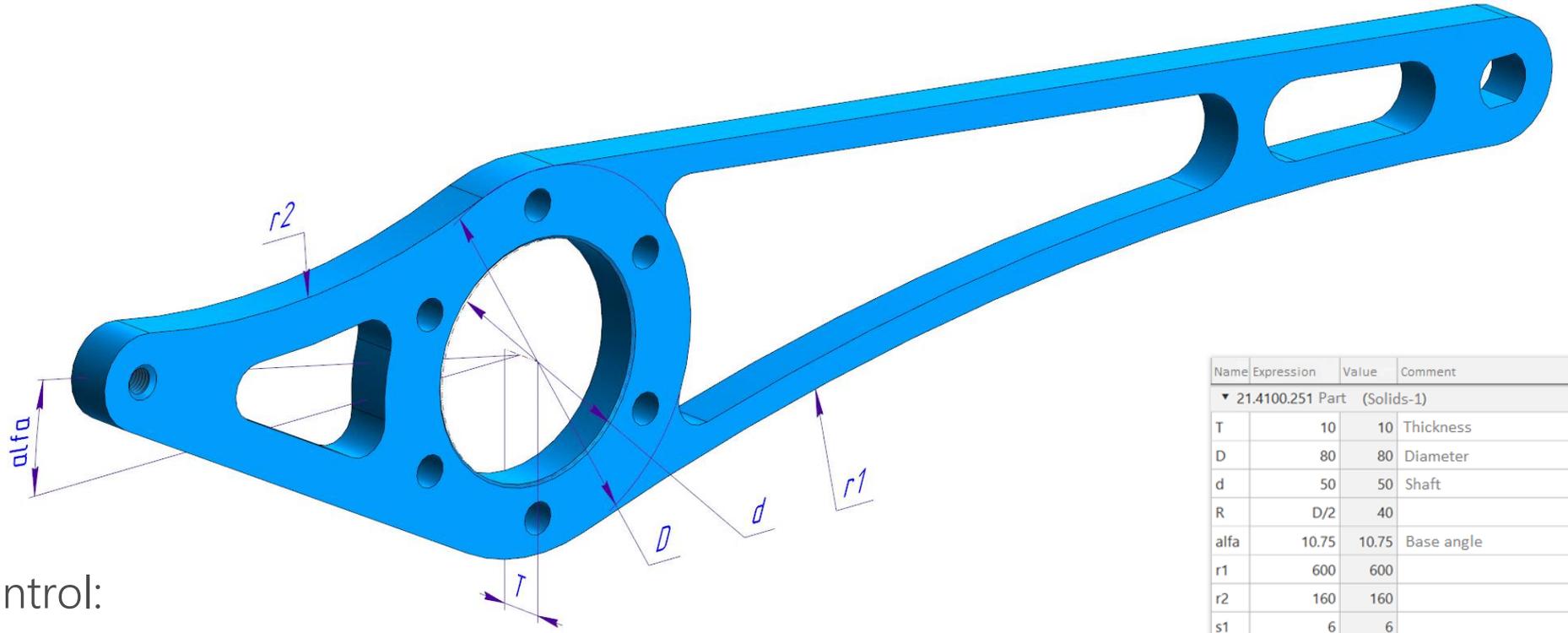


Standard Parts Libraries

- ASCON Standard Parts library is supplied with KOMPAS-3D.
- Designers use its database to select fasteners based on DIN and ISO standards.



Parametric modeling

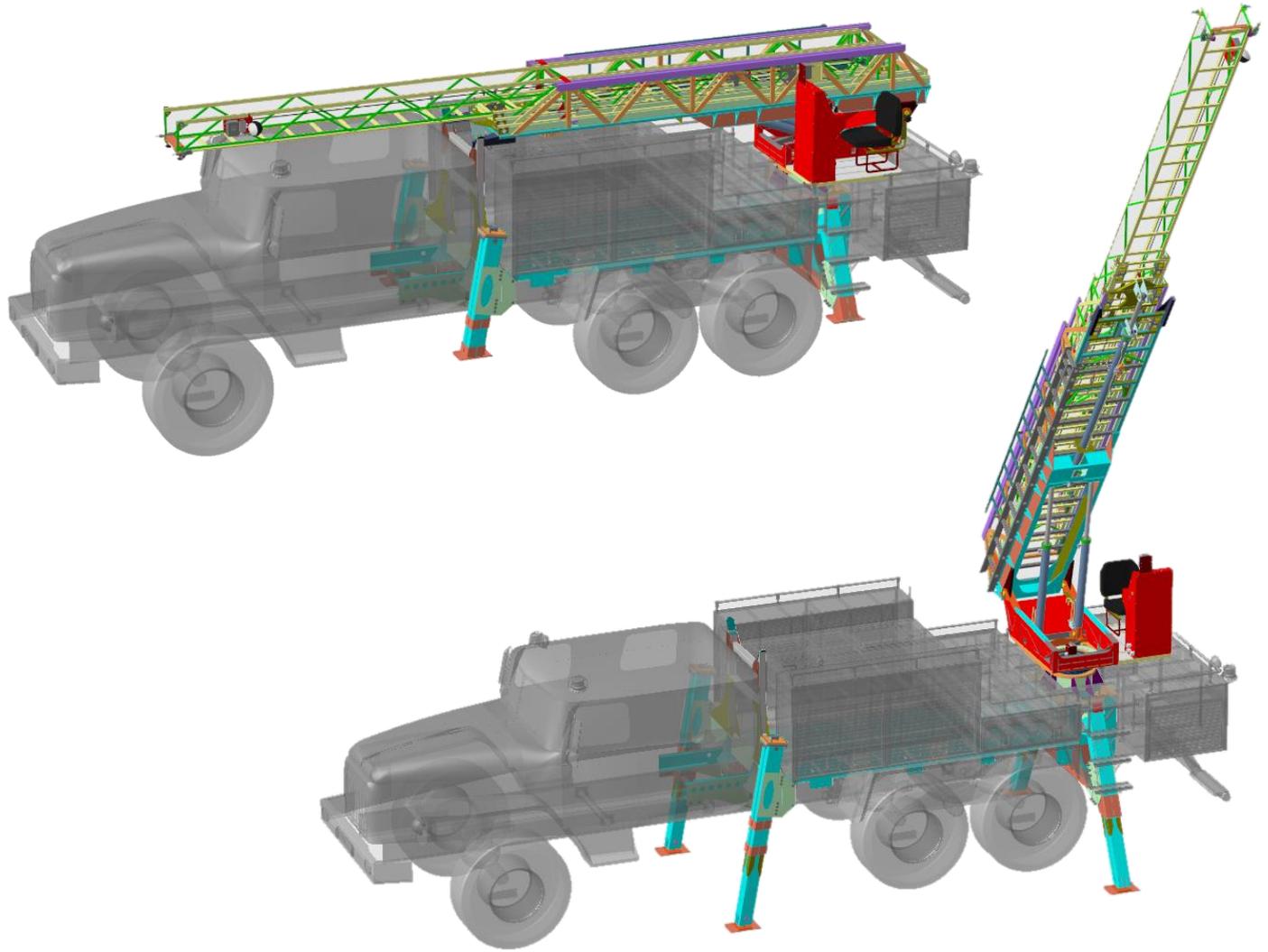


Control:

- Geometry
- Dimensions
- Limit deviations

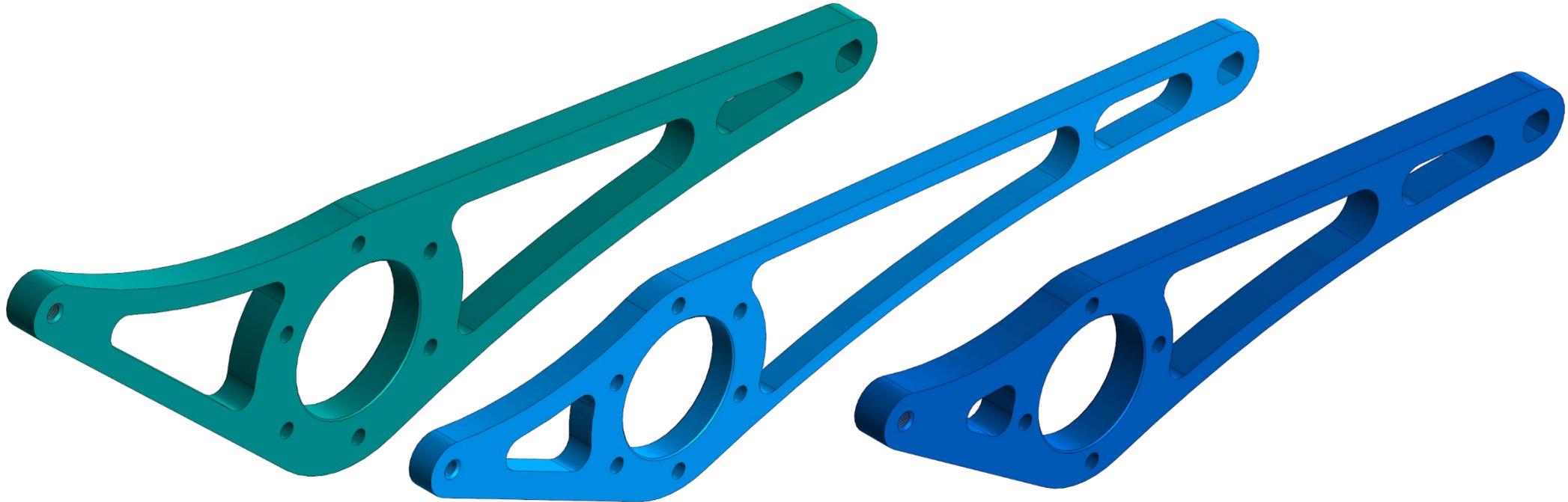
Name	Expression	Value	Comment
▼ 21.4100.251 Part (Solids-1)			
T	10	10	Thickness
D	80	80	Diameter
d	50	50	Shaft
R	D/2	40	
alfa	10.75	10.75	Base angle
r1	600	600	
r2	160	160	
s1	6	6	
s2	10	10	
h1	252	252	
h2	105	105	
ro	$d/2+(D-d)/4$	32.5	r0 formula
n	$d<50?4:6$	6	Holes number expres...

TABLE OF VARIABLES					
Comment	Ups	Xps	Xppo	Xpzo	aStr
0 deg	0	61.681273	0	0	0
-7 deg	-7	0	843	809	90
-5 deg	-5	16.681273	843	809	90
0 deg	0	61.681273	843	809	0
+5 deg	5	111.342116	843	809	0
+10 deg	10	164.345827	843	809	0
+15 deg	15	220.120683	843	809	0
+20 deg	20	277.973071	843	809	0
+25 deg	25	337.267366	843 </td <td>809</td> <td>0</td>	809	0
+30 deg	30	397.425825	843	809	0
+35 deg	35	457.92588	843	809	0
+40 deg	40	518.296052	843	809	0
+45 deg	45	578.111317	843	809	0
+50 deg	50	636.98843	843	809	0
+55 deg	55	694.581513	843	809	0
+60 deg	60	750.578047	843	809	0
+65 deg	65	804.695345	843	809	0
+70 deg	70	856.677483	843	809	0
+75 deg	75	906.292681	843	809	0



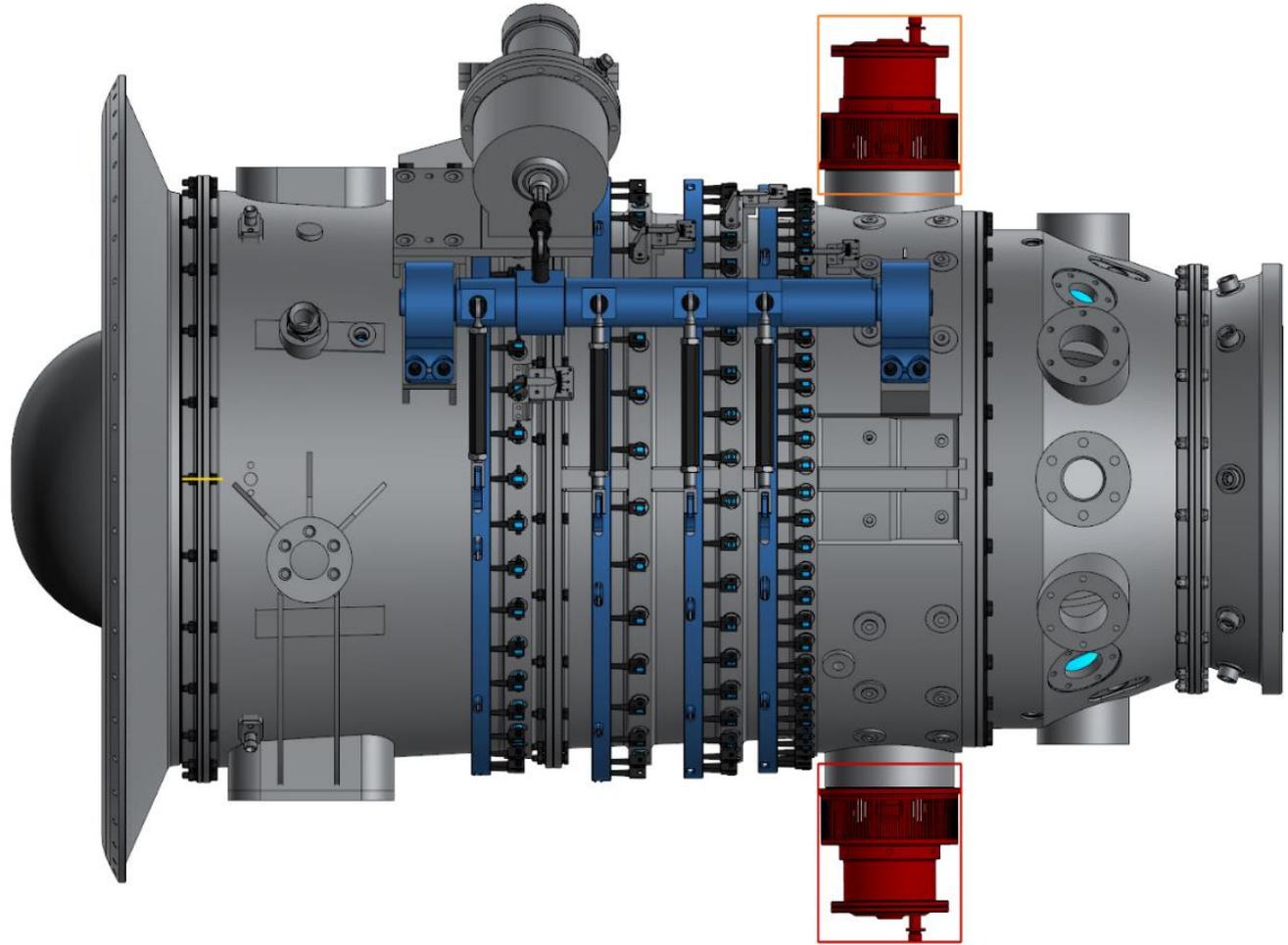
Variations

Commentary	T	D	d	alfa	r1	r2	s1	s2	h1	h2
Part - 01	10	80	50	10.75	600	160	6	10	252	105
Part - 02	13.5	74	48	18	500	125	8	12	202.8	89.4
Part - 03	12.4	95.6	56	30	600	250	11	9	224	160

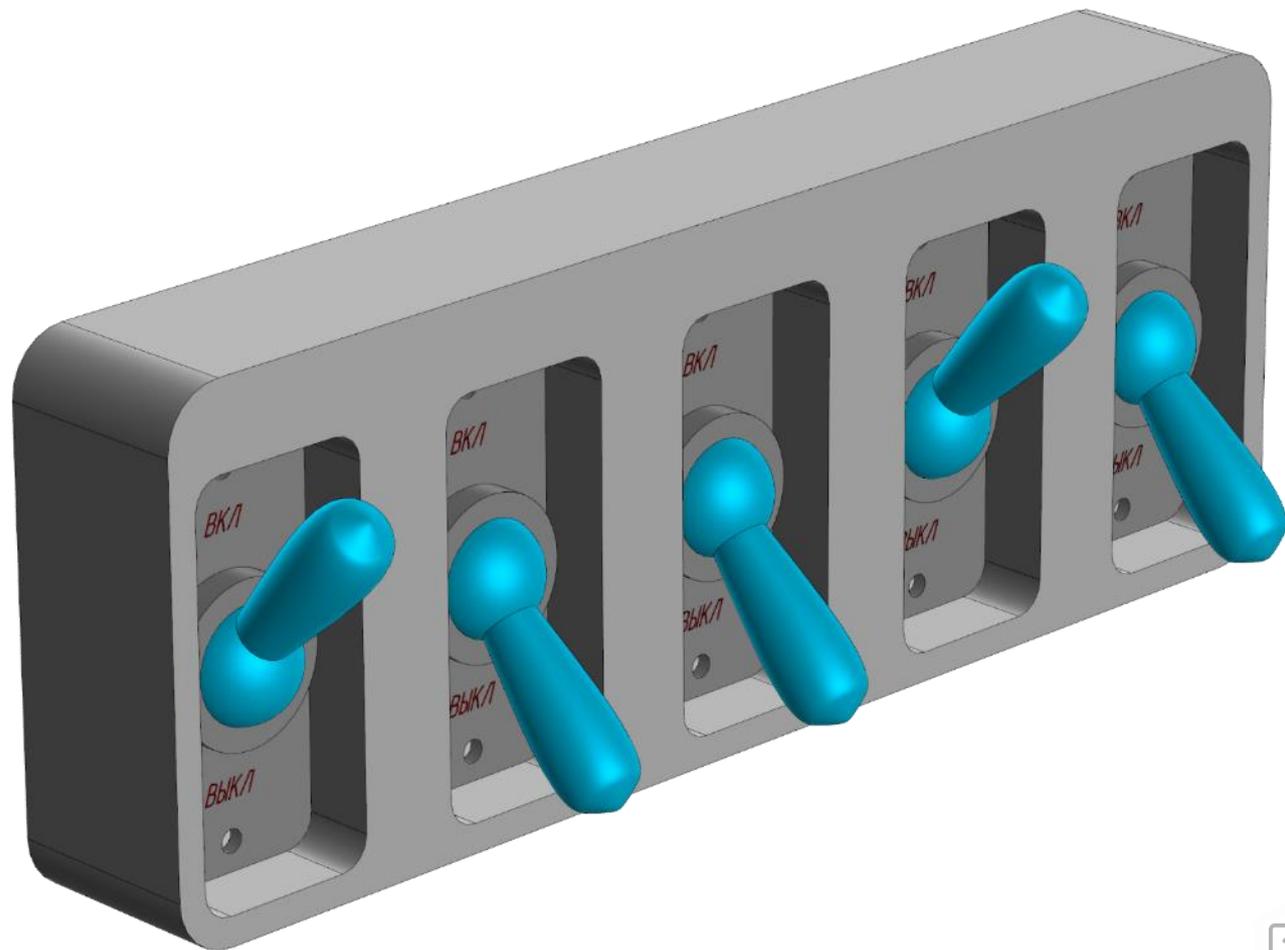
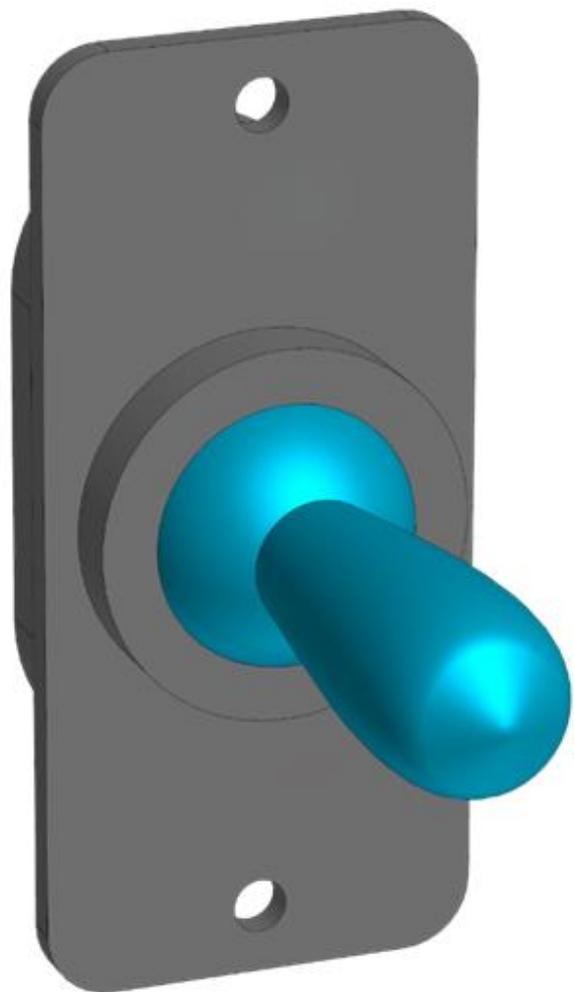


Variations of assemblies

- Dependent
- Independent
- Mirror assemblies

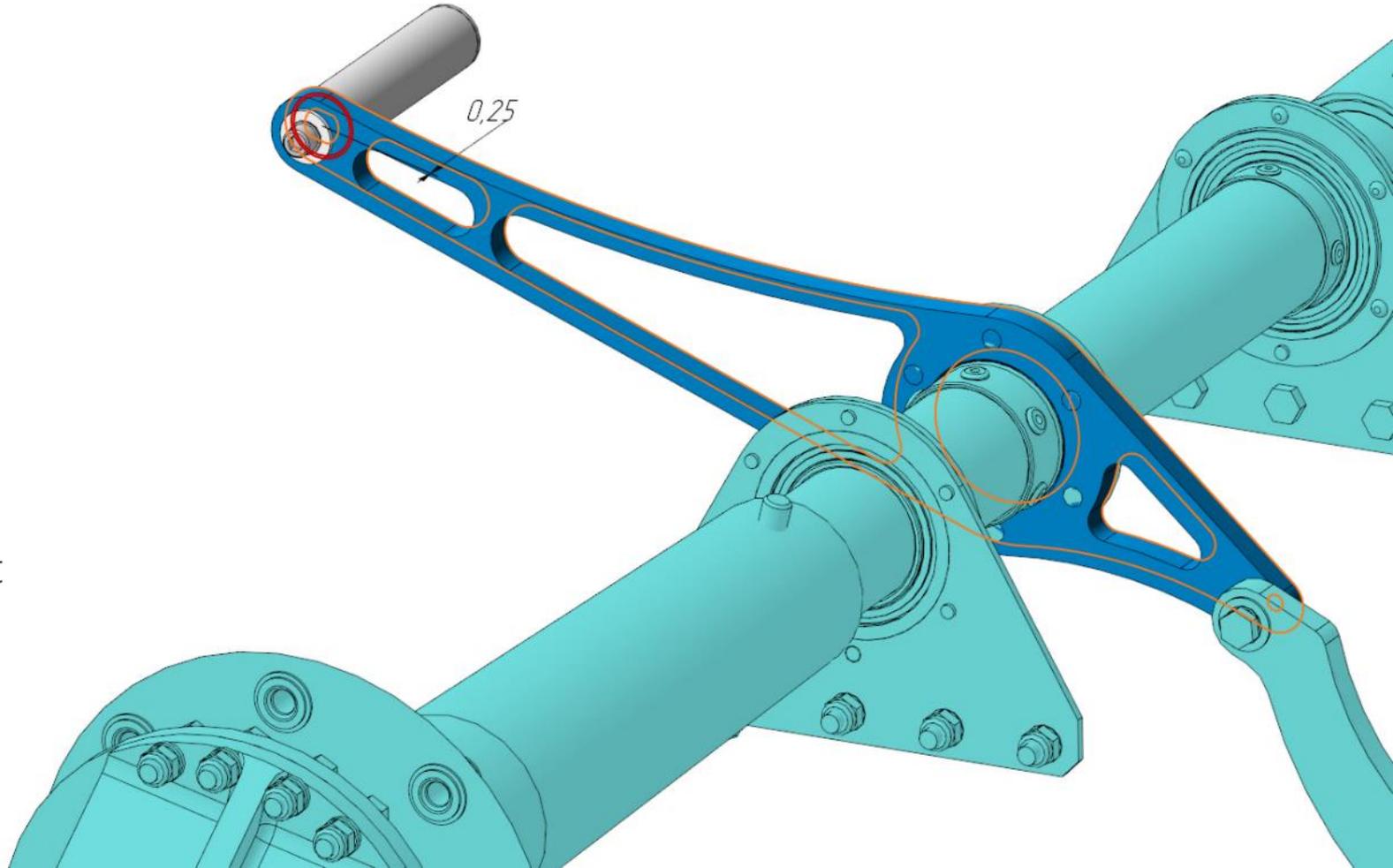


Variants for the geometric representation of the product



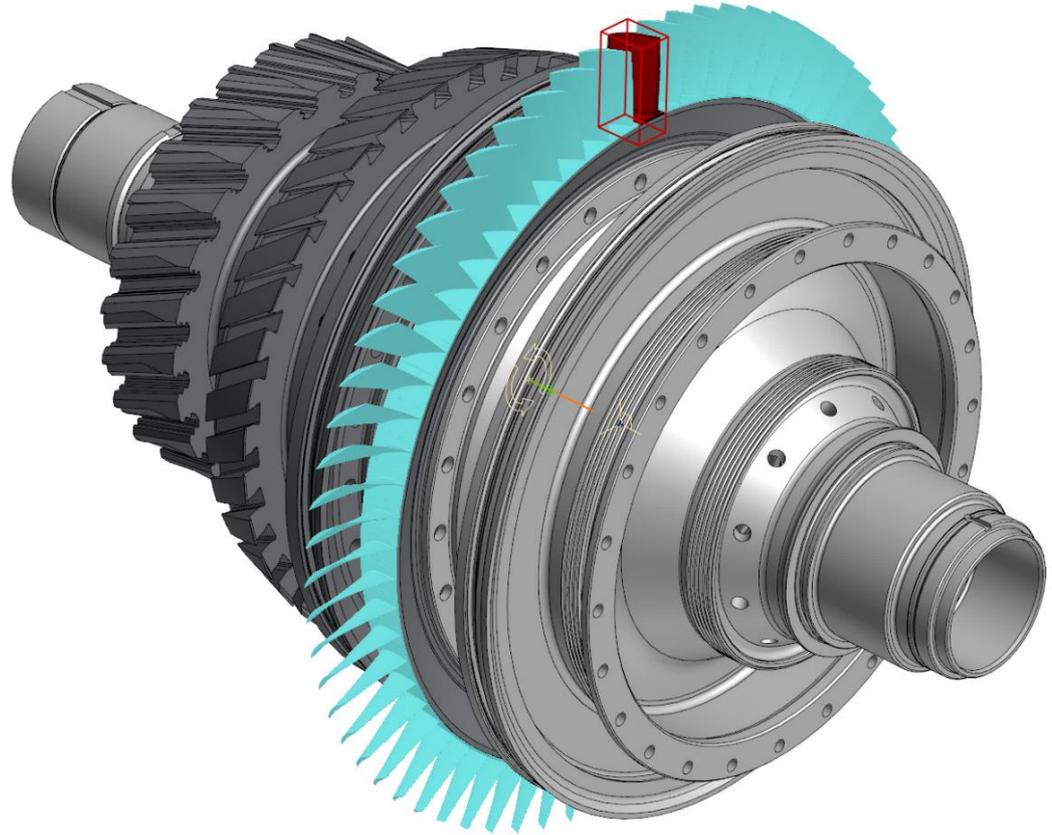
Assembly mates

- ❑ Coincidence
- ❑ Coaxiality
- ❑ Parallel
- ❑ Perpendicular
- ❑ Offset
- ❑ Dependent position
- ❑ By angle
- ❑ Tangent
- ❑ Symmetry
- ❑ Rotation-movement
- ❑ Rotation-rotation
- ❑ Push cam



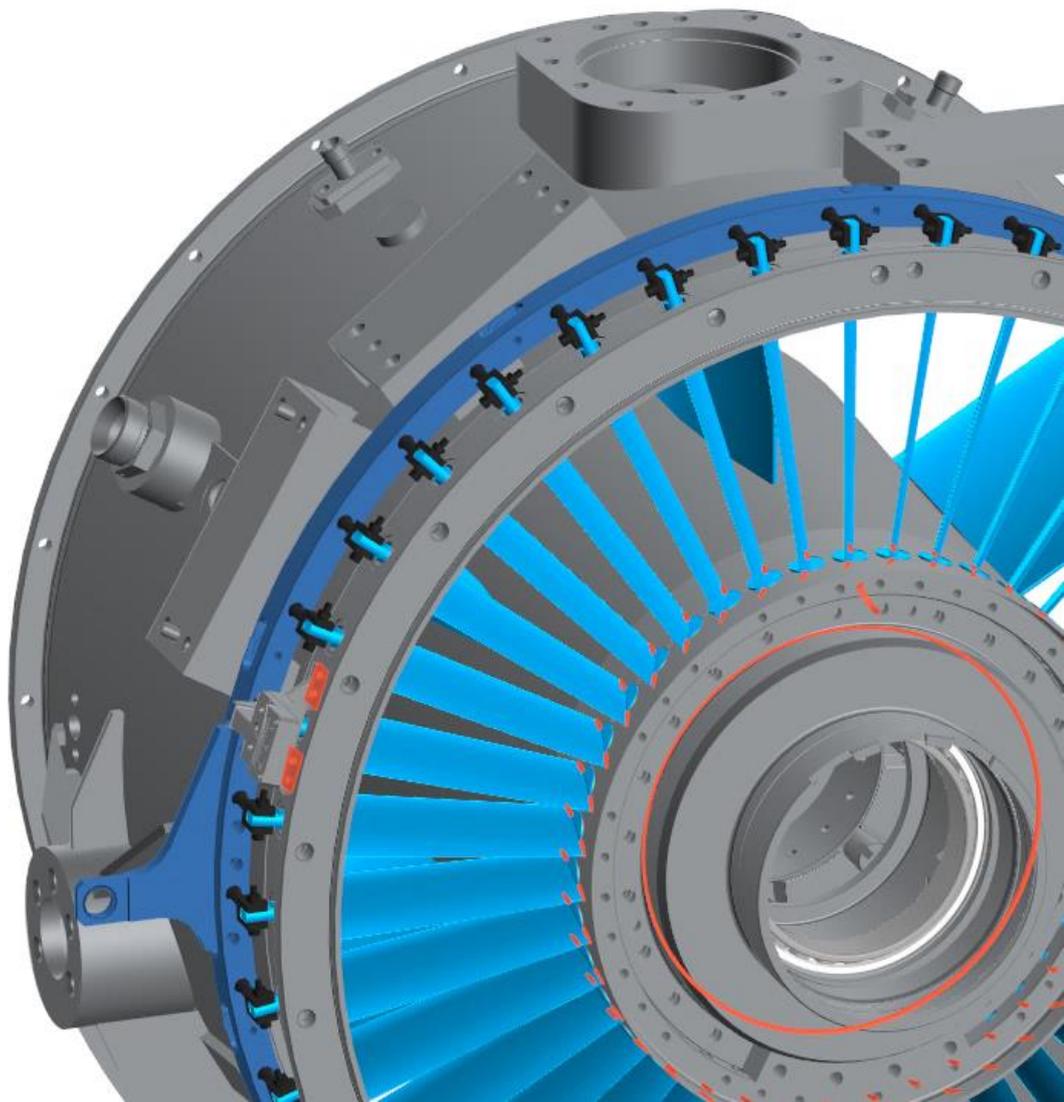
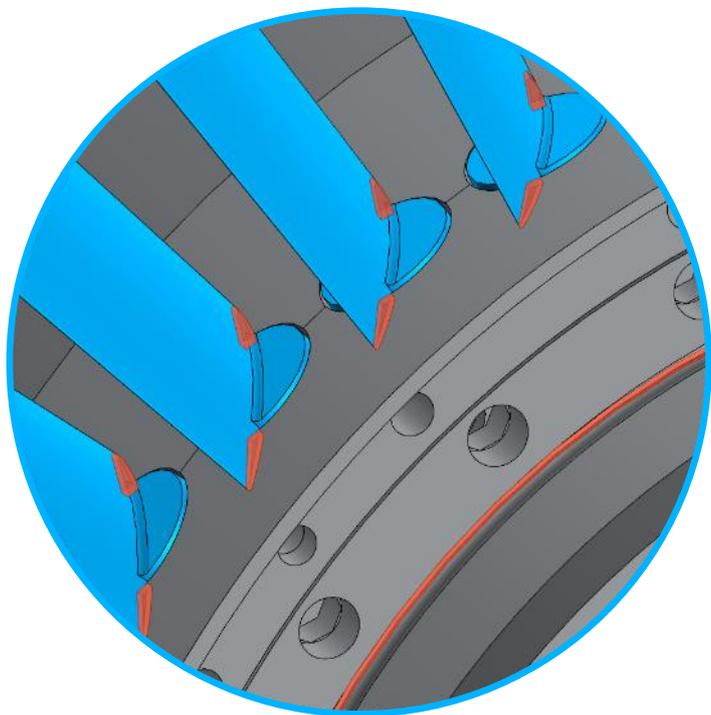
Patterns

- Along the curve
- By points
- By table
- By grid
- By concentric grid
- Mirror
- By sample

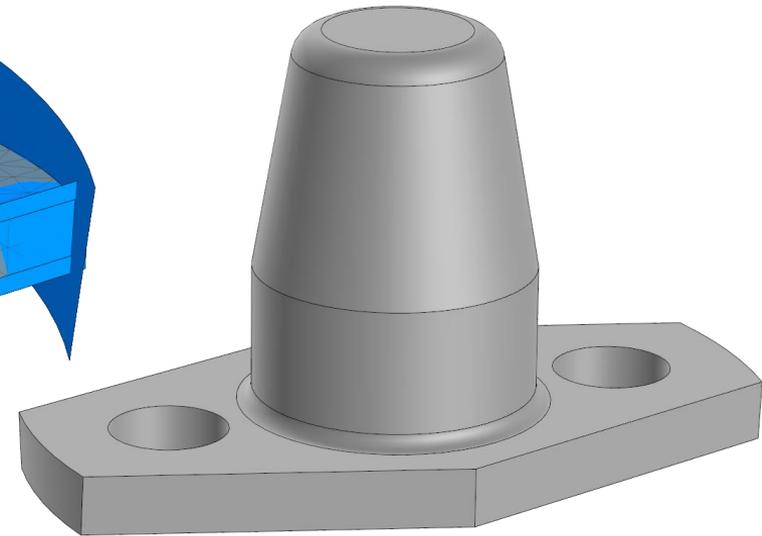
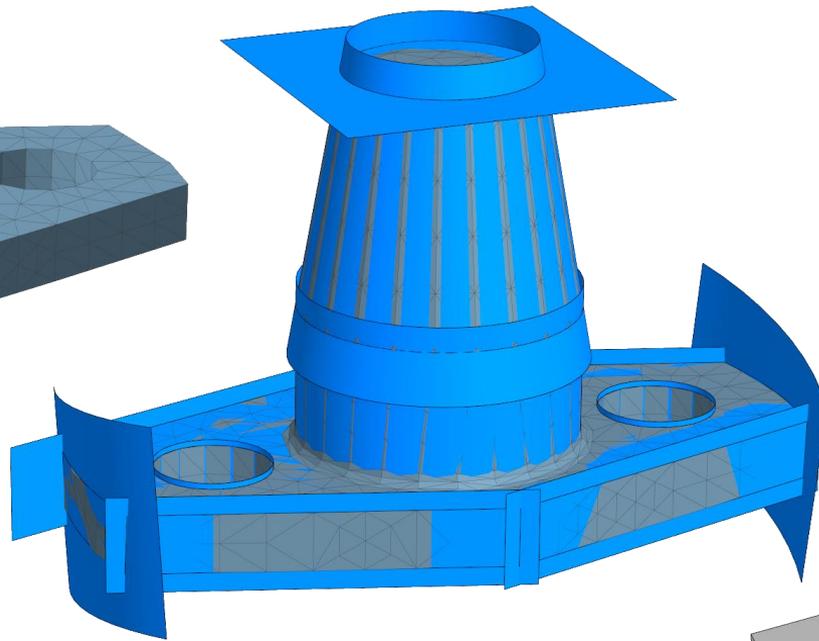
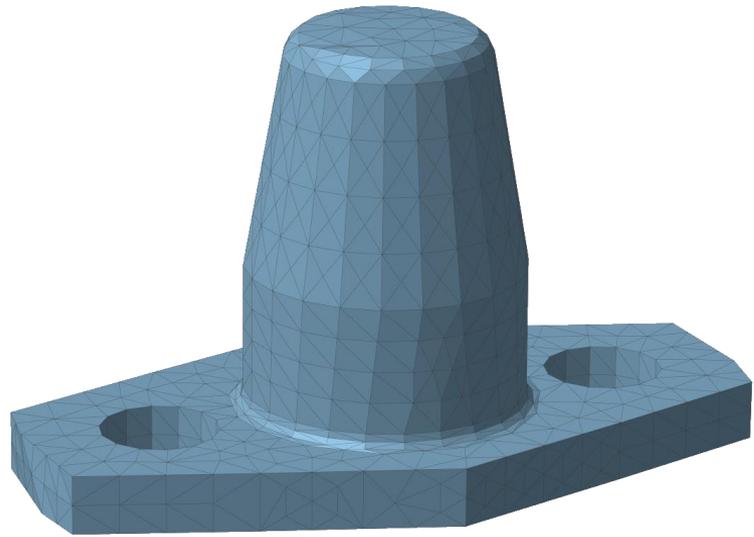


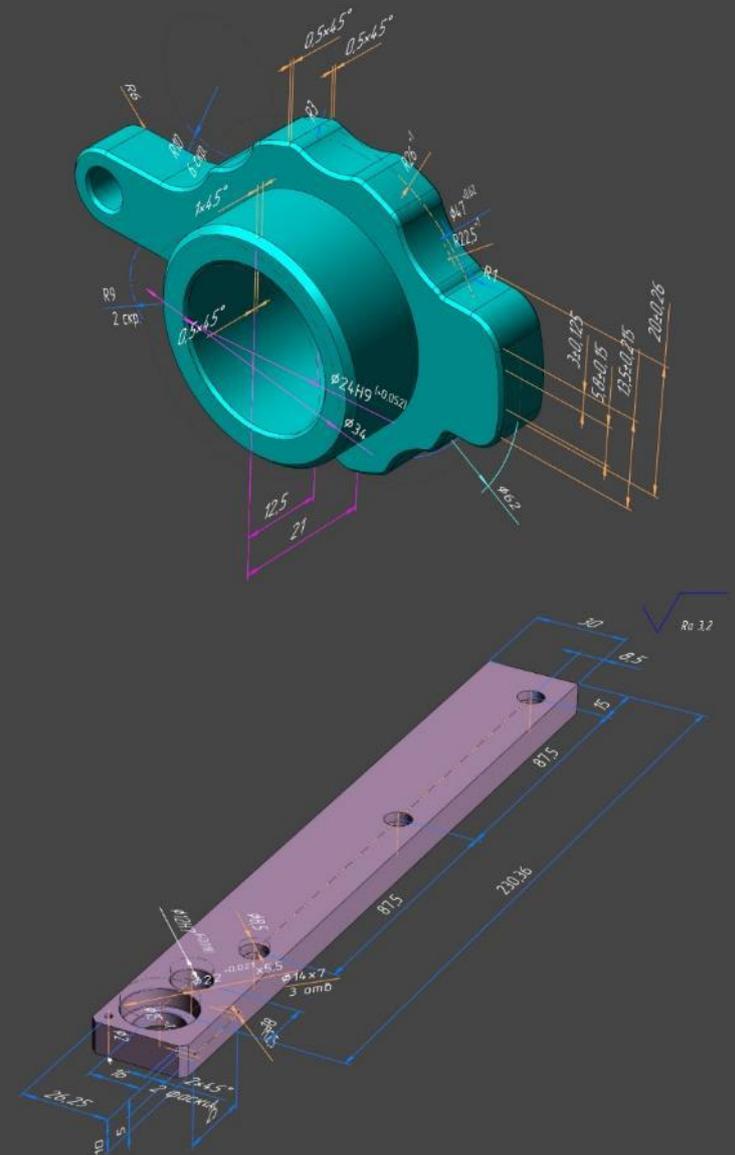
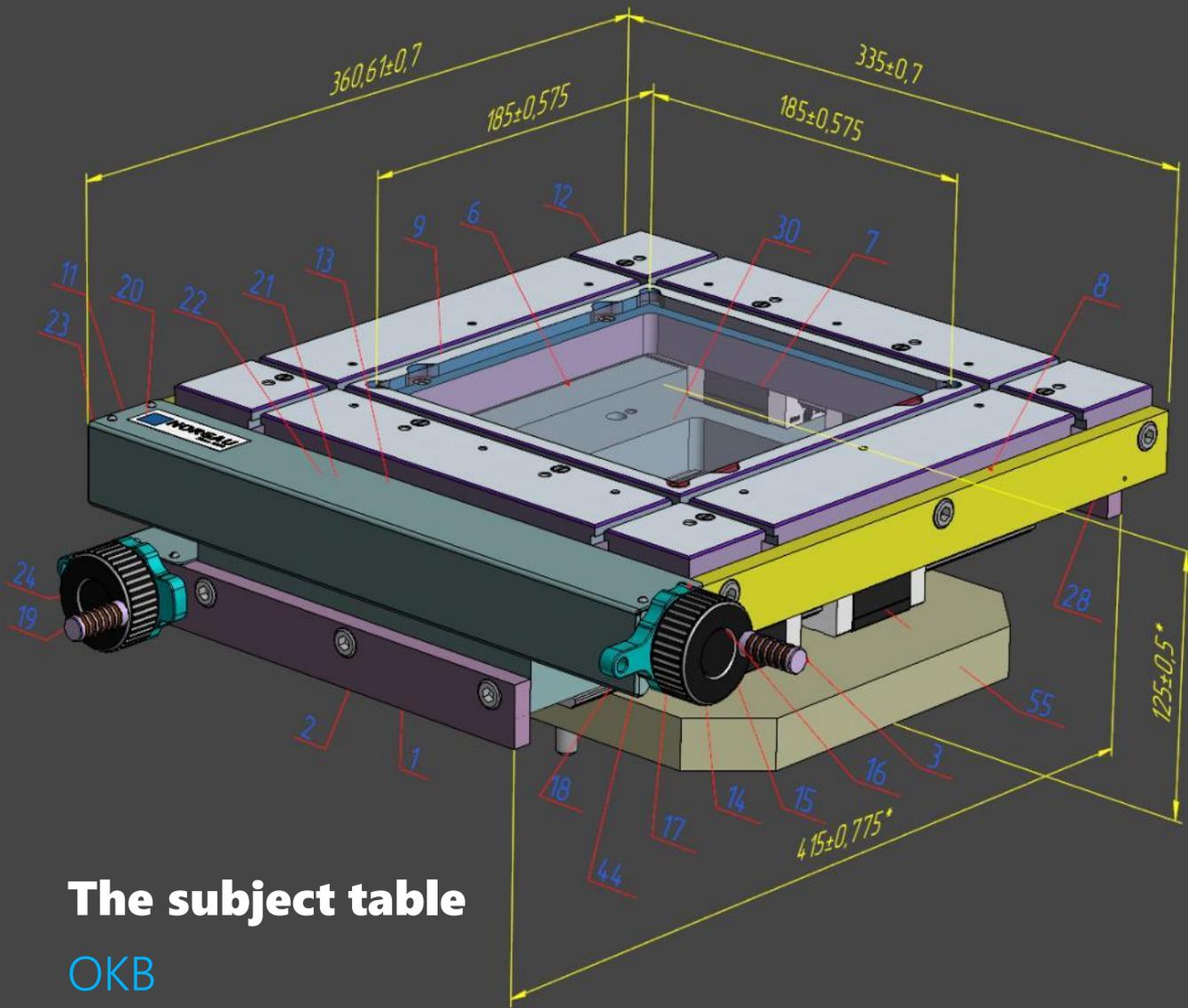
Collisions detection

- Intersections
- Gaps
- Threaded connections

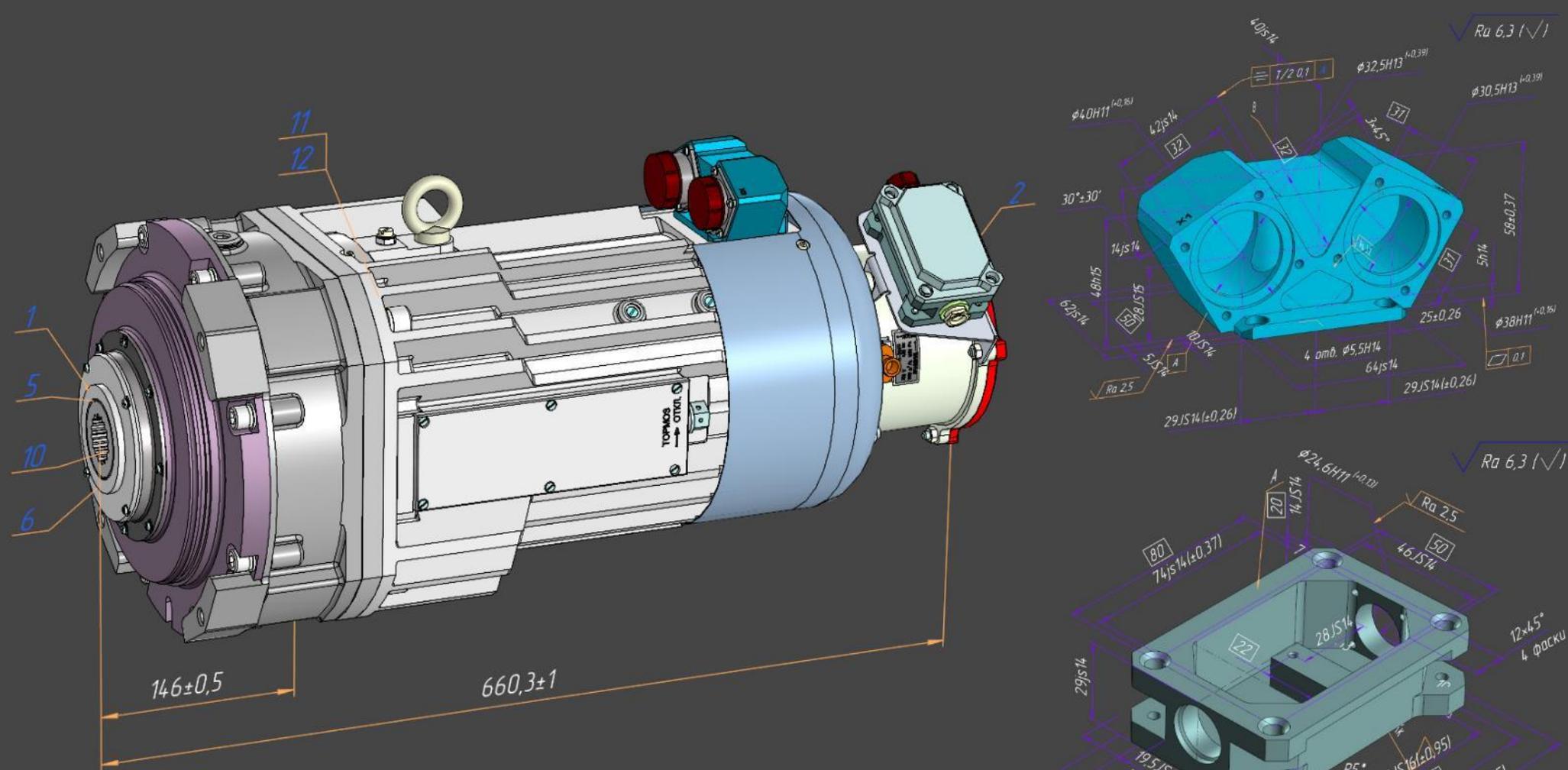


Reverse engineering for scanned geometry





The subject table
OKB

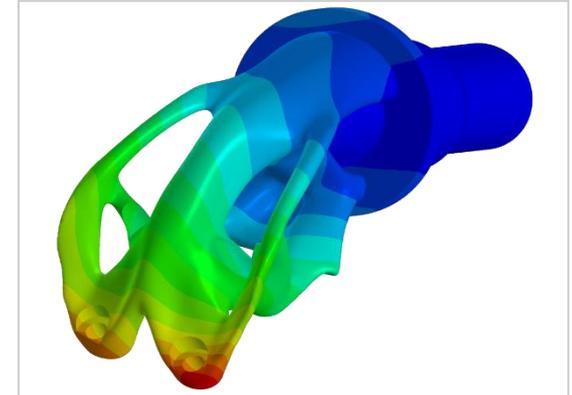
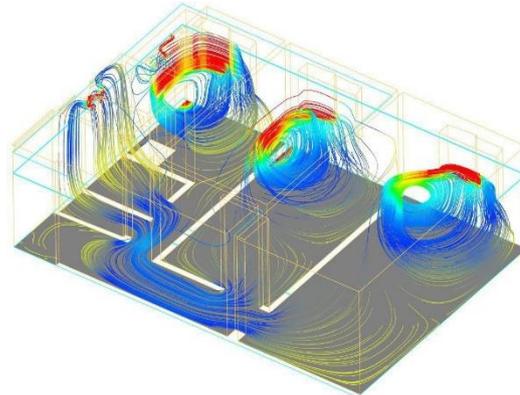
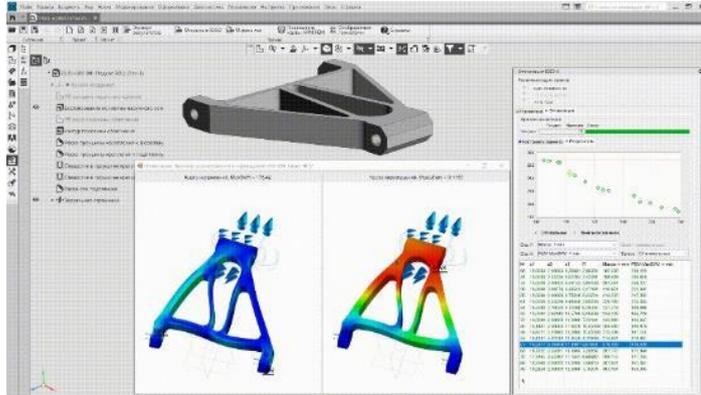


Mechatronic module

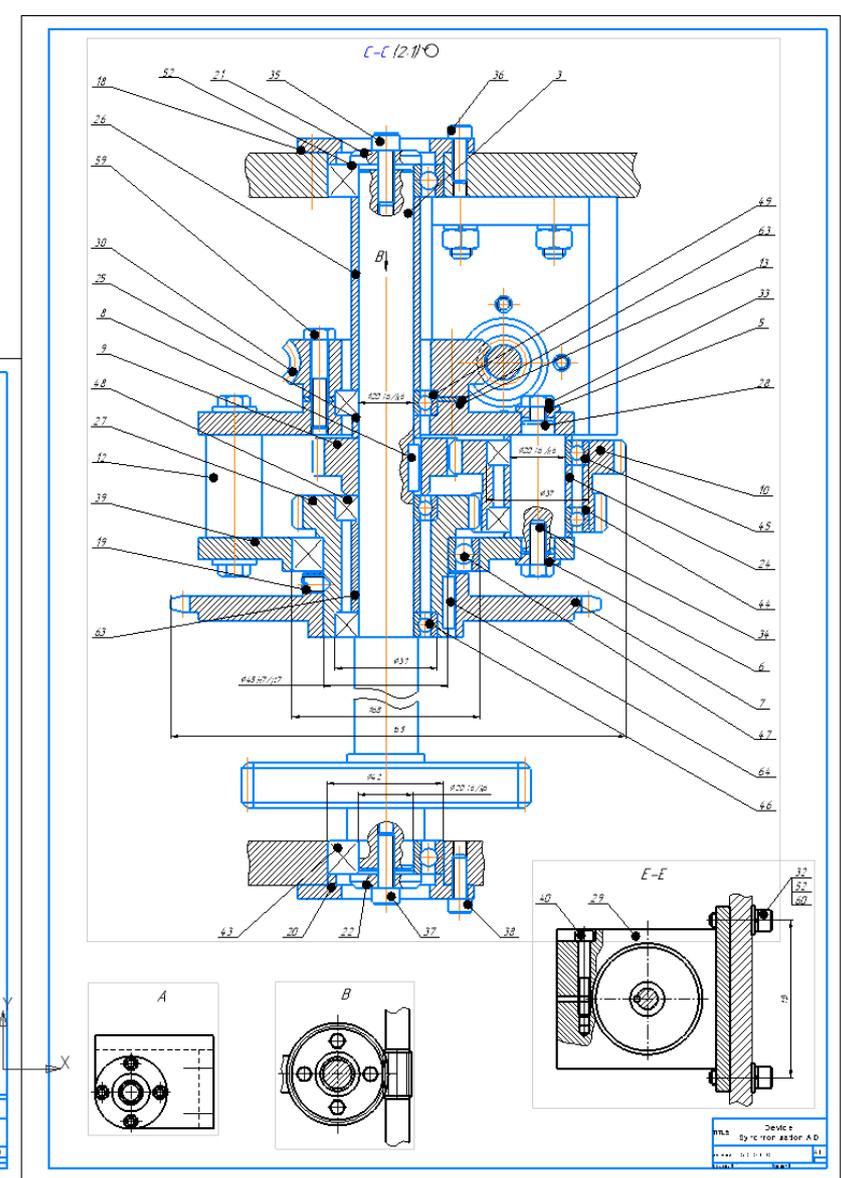
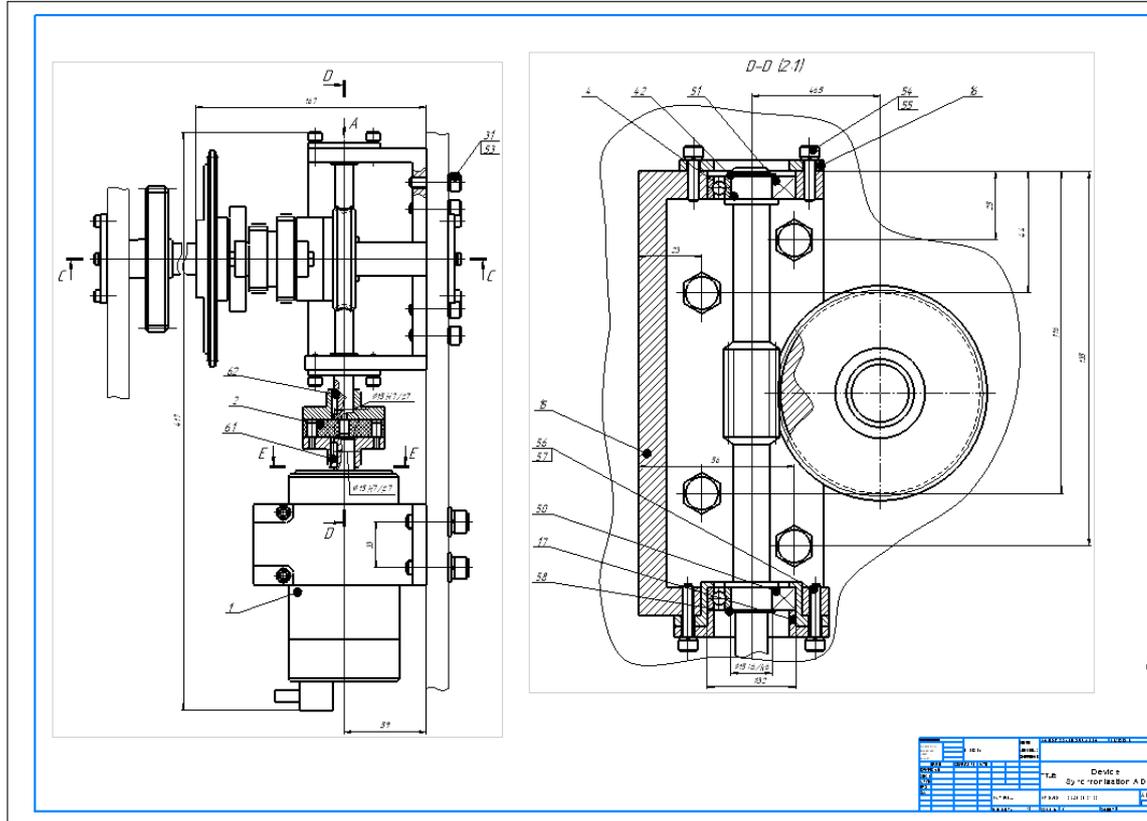
VNII Signal

CAE analysis

- Dynamic analysis of the behavior of mechanisms
- Express strength analysis
- Topological optimization
- Geometric optimization
- Analysis of liquid and gas flow
- Thermal conductivity and natural convection



Associative drawings



BOM lists and Fast reporting functionality

Designation	Name	Number	Mass
	Bend-90 Dn 150	3	17.1533
	Bend-90 Dn 50	5	2.4504

Report style parameters

Style Name: default ID: 181403690603.000000

Property	Designation	Name	Number	Mass
Column name	Designation	Name	Number	Mass
Display	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Unit	-	-	-	kilogram
Decimal Digits				4
Sorting	Priority 1 "A-R"	Priority 2 "A-R"	Sum	Sum
Grouping	Coincident	Coincident	60.0	40.0
Column width, mm	60.0	60.0	25.0	Style
Align	Left	Left	Style	Style
Wrap	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Row height of table header, mm: 15 Display Title

Row height of table cell, mm: 8

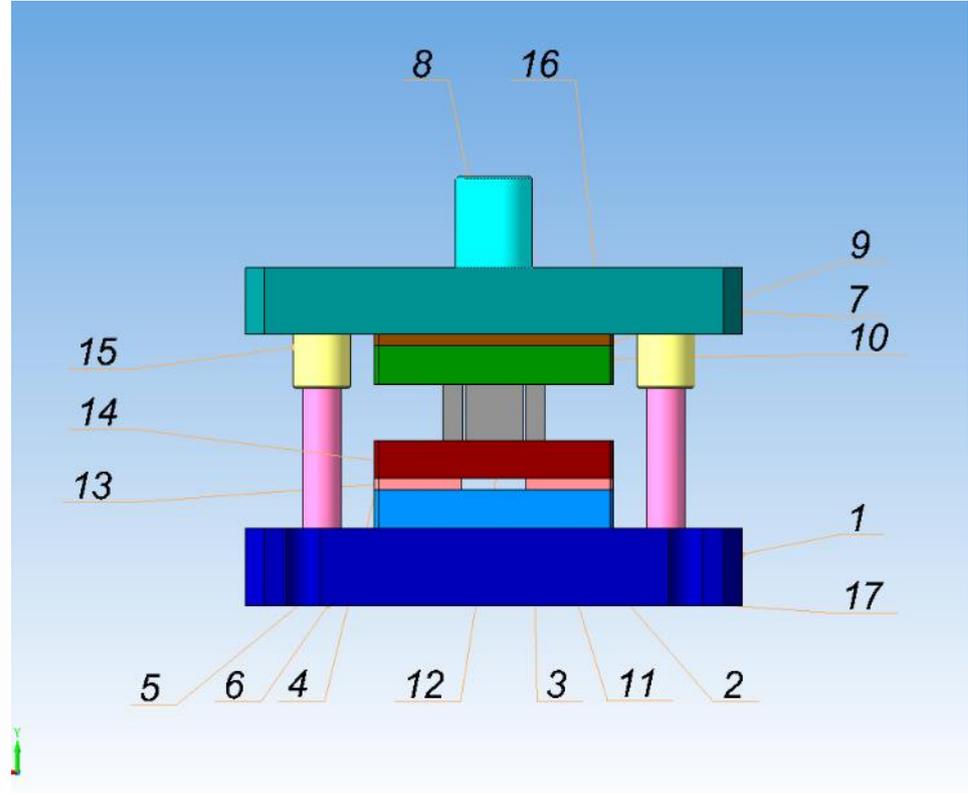
Line Numbering

One-Level Multilevel

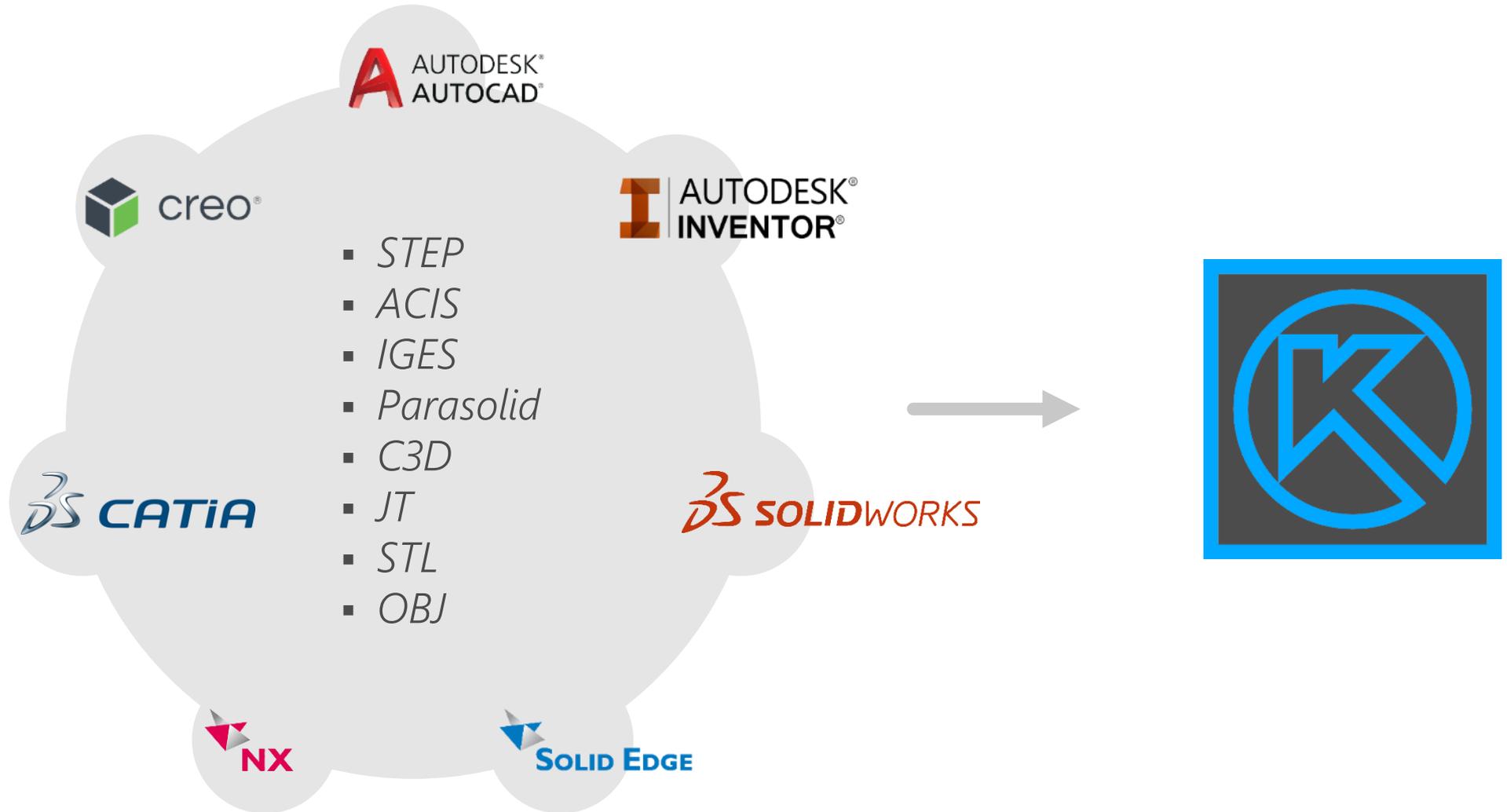
Break Down into Pages

Rows on Page: 34 Leave Blank Lines

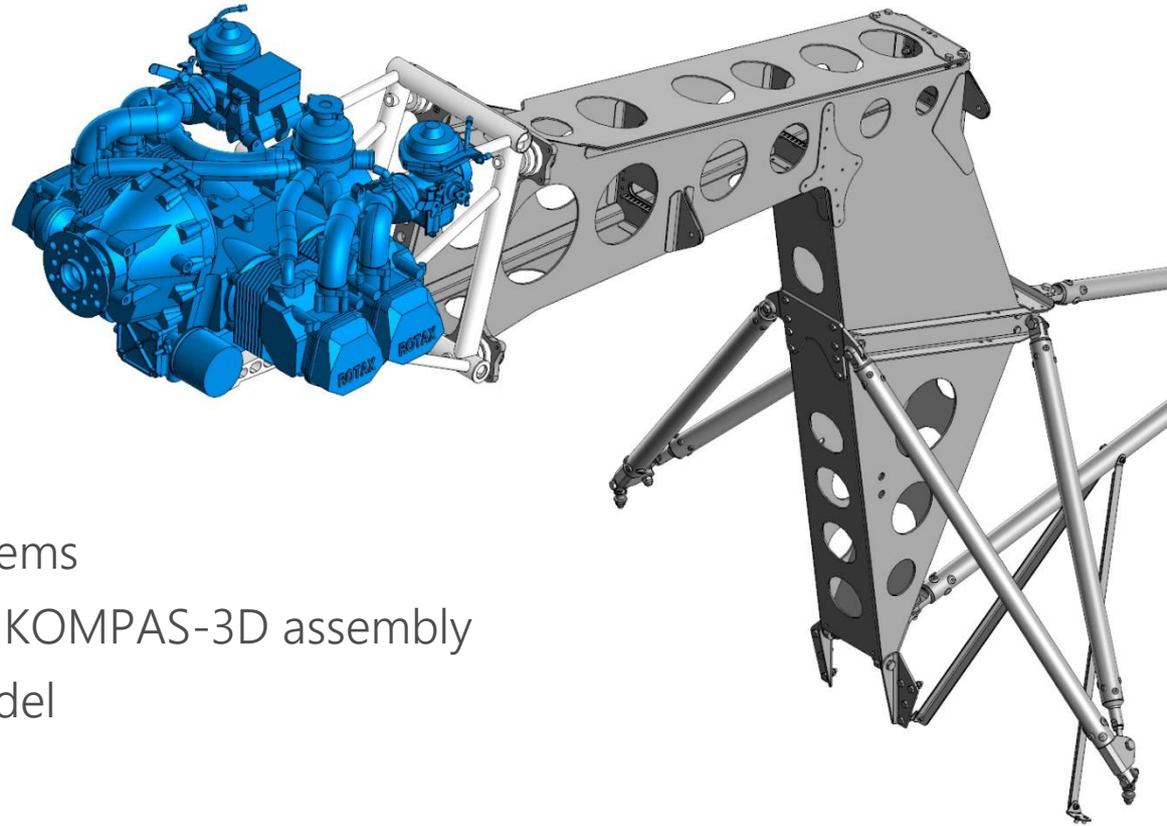
Buttons: Save to Library &..., OK, Cancel, Help



Working with data from other CAD systems

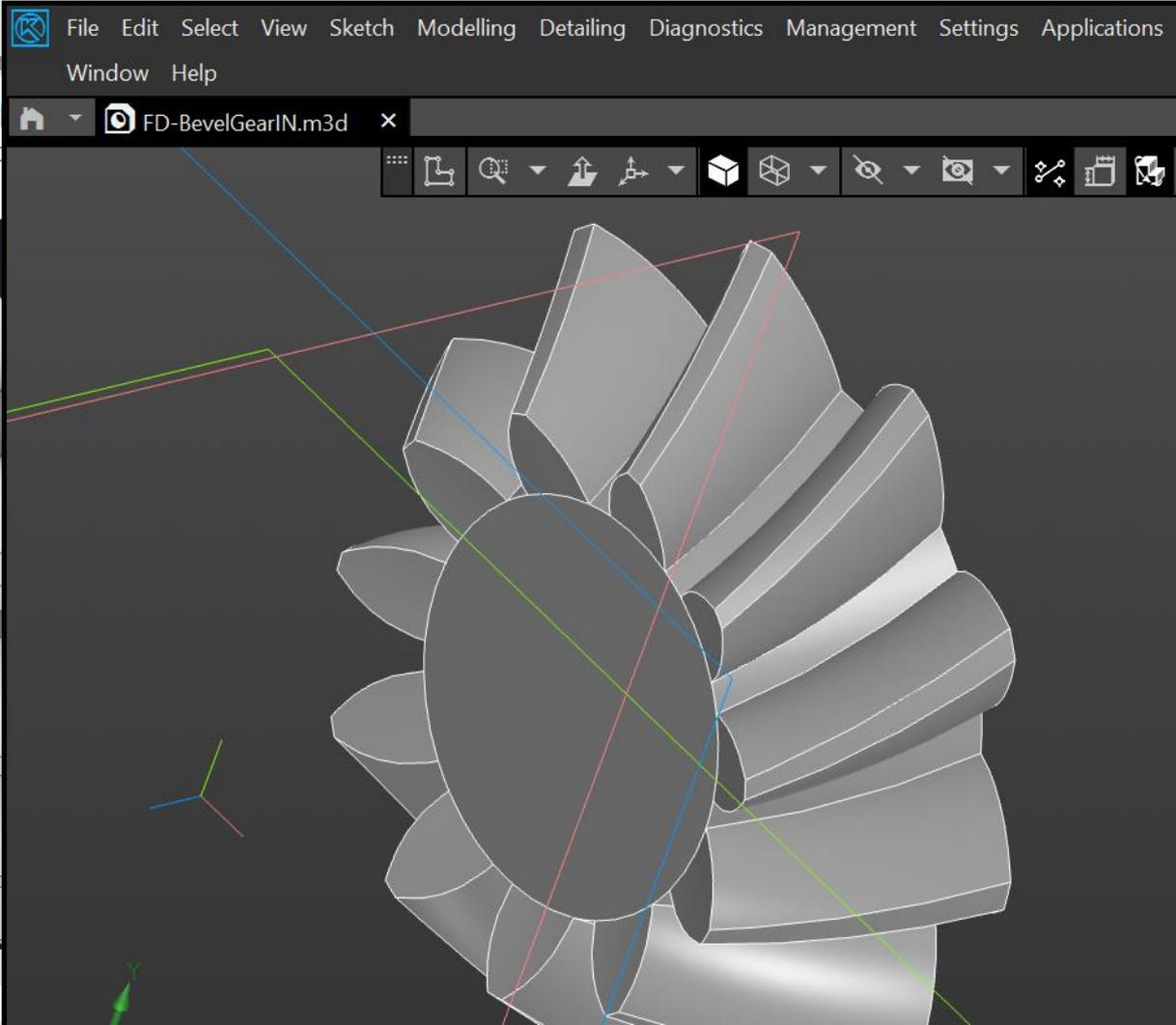
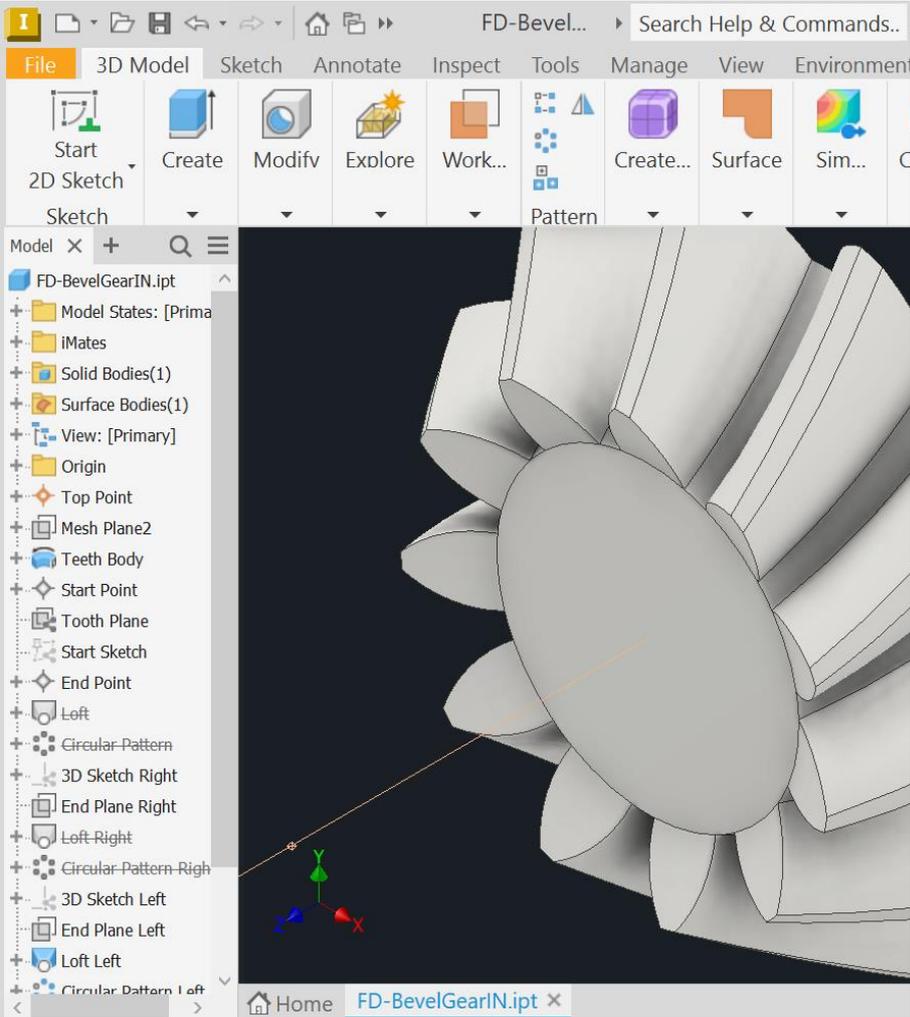


Working with models of other CAD systems



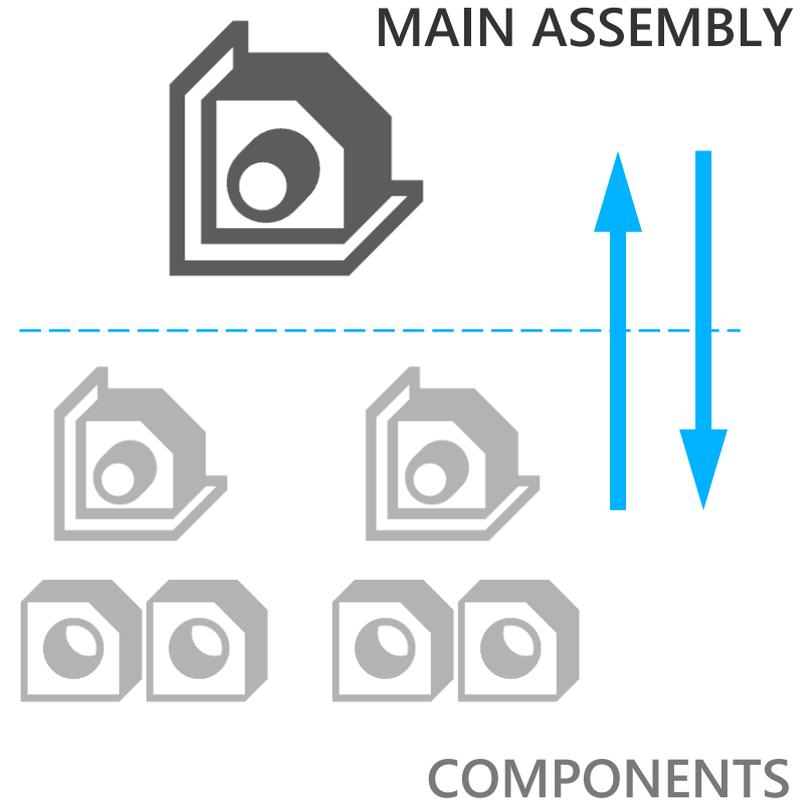
- Working with models of other CAD systems
- Direct insertion of CAD models into the KOMPAS-3D assembly
- Changing the geometry of the CAD model

CAD Converter



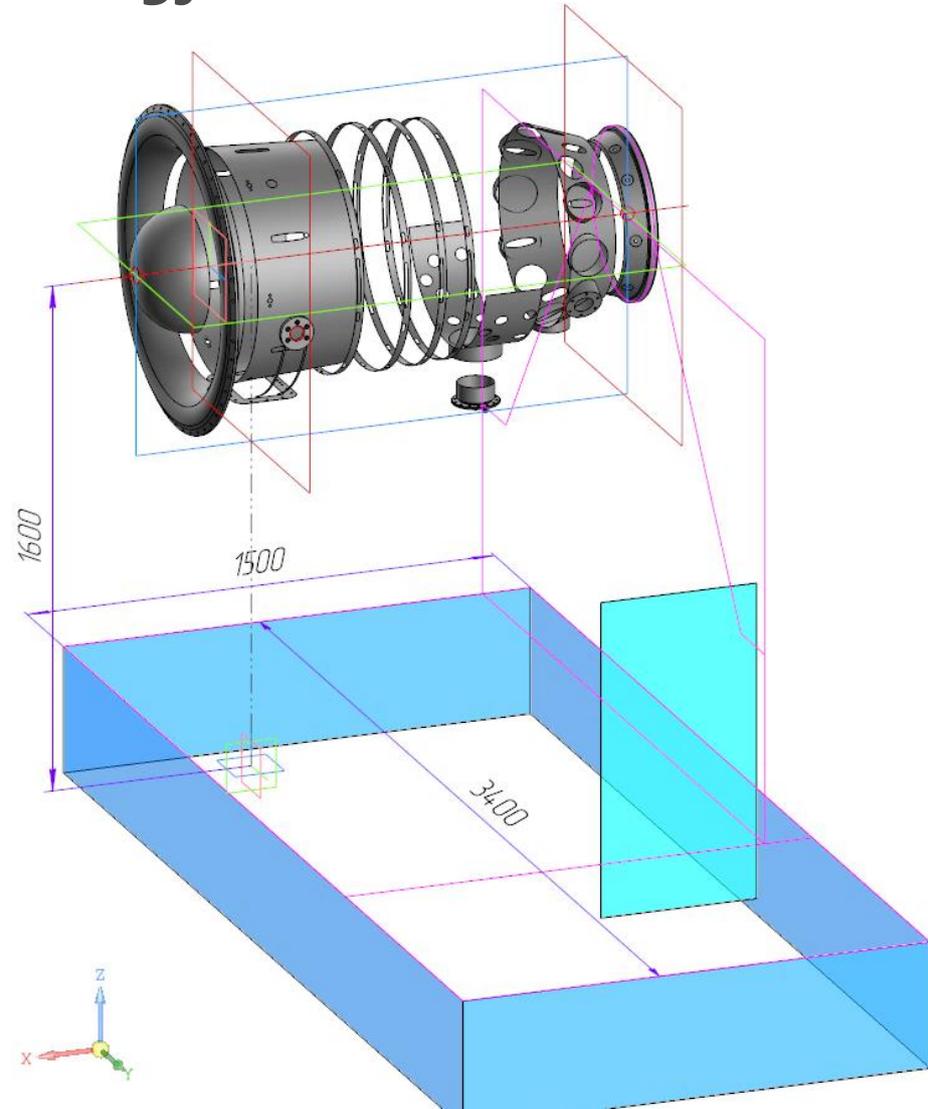
Various design methods

- Down-top with the placement of components
- Down-top with the a preliminary layout
- Top-down with the body transformation to component
- Top-down with a preliminary layout



Skeleton technology and WAVES

- Layout geometry
- Copying Geometry
- Geometry collections



5. PERFORMANCE



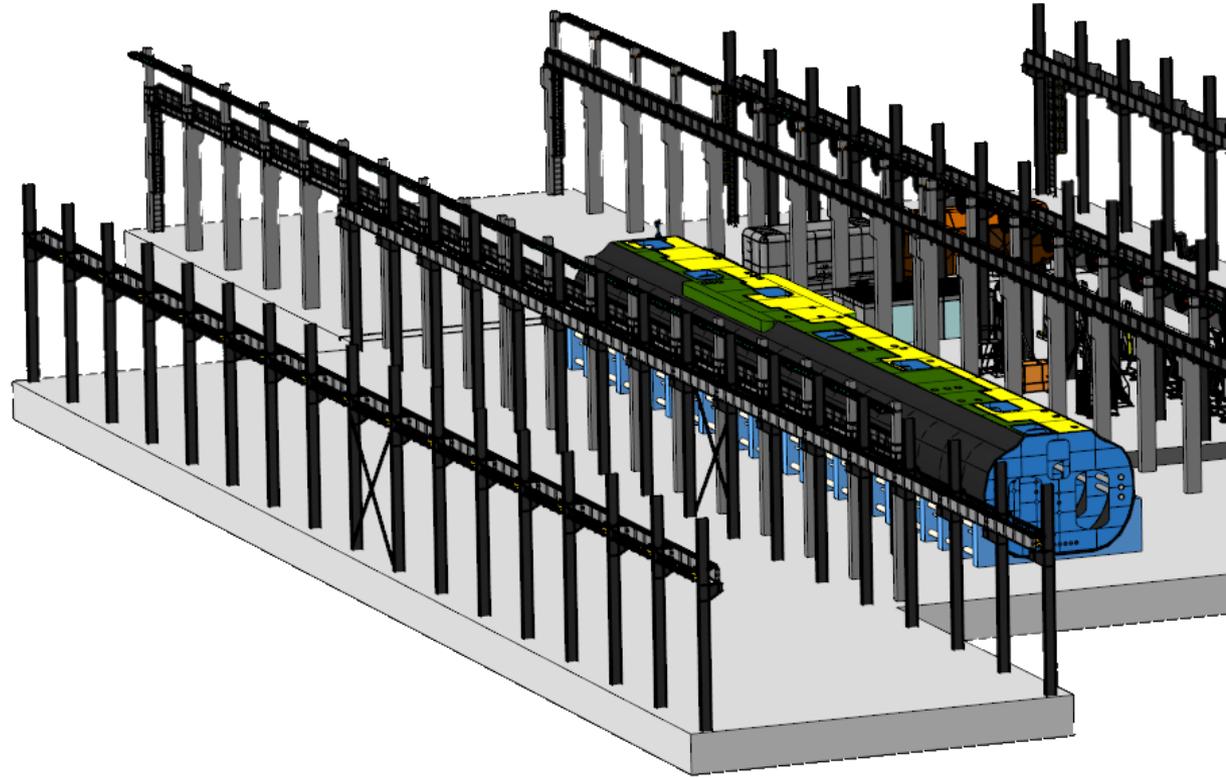
Performance

- **Software part**

Working methods, settings, design techniques, current version

- **Hardware**

Processor, Graphics card, SSD



A model of a factory with equipment
OKB LLC (Novosibirsk)

3,554,293 components + 1,266,049 standard parts

Hardware requirements

	S	L	XXL
OS bit	x86 x64	x64	x64
Number of cores	OC ^{min}	≥4	≥6
Processor frequency, GHz	OC ^{min}	≥3	≥4
RAM, GB	OC ^{min}	≥16	≥32
Videocard	OpenGL 2.0	OpenGL 4.5 ≥80 ГБ/с	OpenGL 4.5 ≥140 ГБ/с
Video memory, GB	OC ^{min}	≥2	≥4
Additionally	HD	FullHD	2xFullHD SSD

Hardware recommendations

Processors

Intel Core i7-[8700K](#)/[9700K](#)/[10700K](#)/[11700K](#)
i5-[8600K](#)/[9600K](#)/[10600K](#)/[11600K](#)

AMD Ryzen 9 [5900X](#)
7 [3700X](#)/[5800H](#)
5 [3600X](#)/[5600X](#)

Video cards

NVIDIA GeForce [GTX](#) 1060/1070/1080/1660 Ti
[RTX](#) 2060/2070/2080/3070
[P](#) 2000/2200

AMD Radeon [RX](#) 5500XT/5600XT/5700
[Pro](#) W5700

THE KEY ADD-INS OF THE INSTALLATION PACKAGE

Mechanical transmissions. Shafts and mechanical gears 3D



Cylindrical gears



Bevel gears



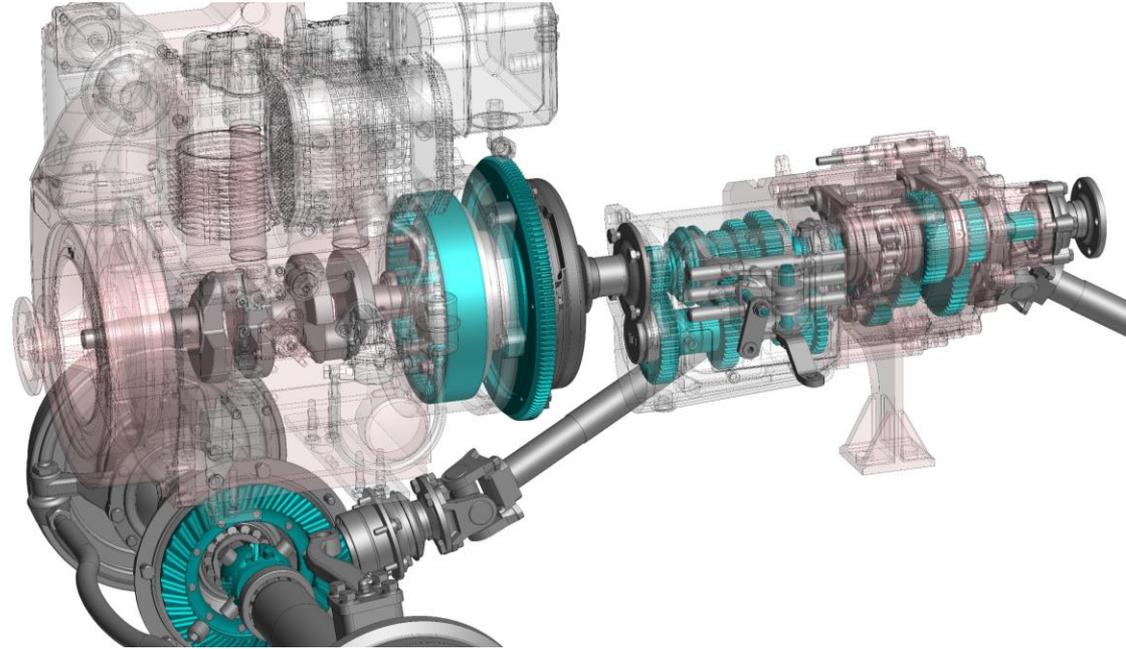
Worm gears



Chain gear

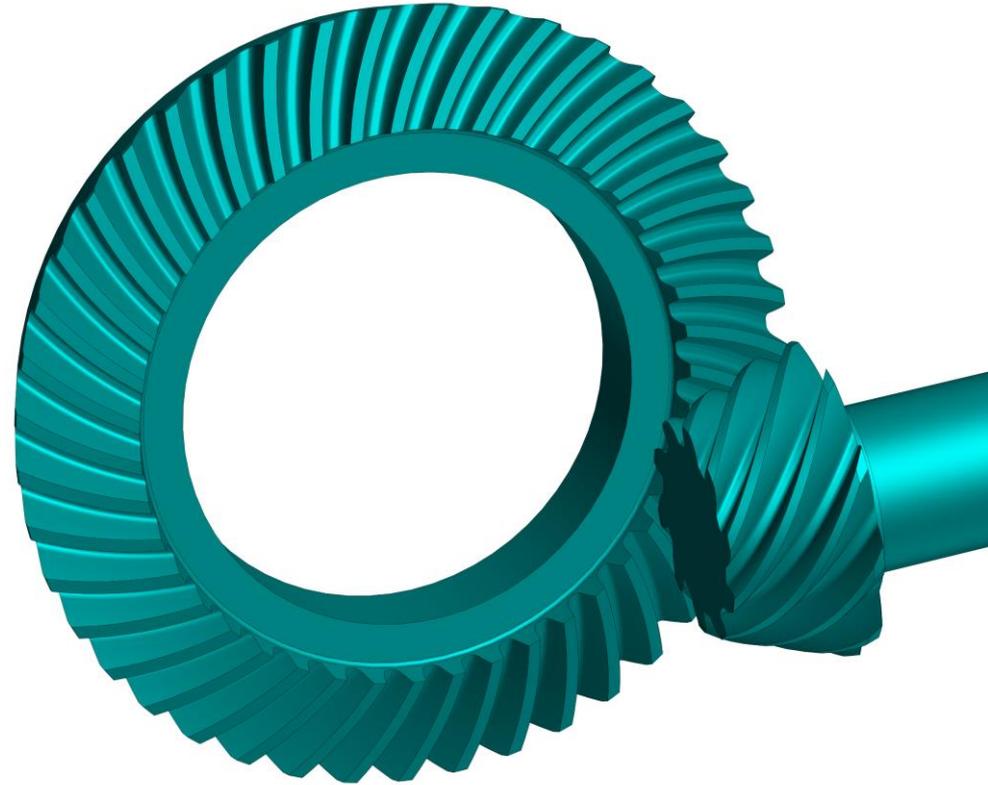


Belt train pulleys



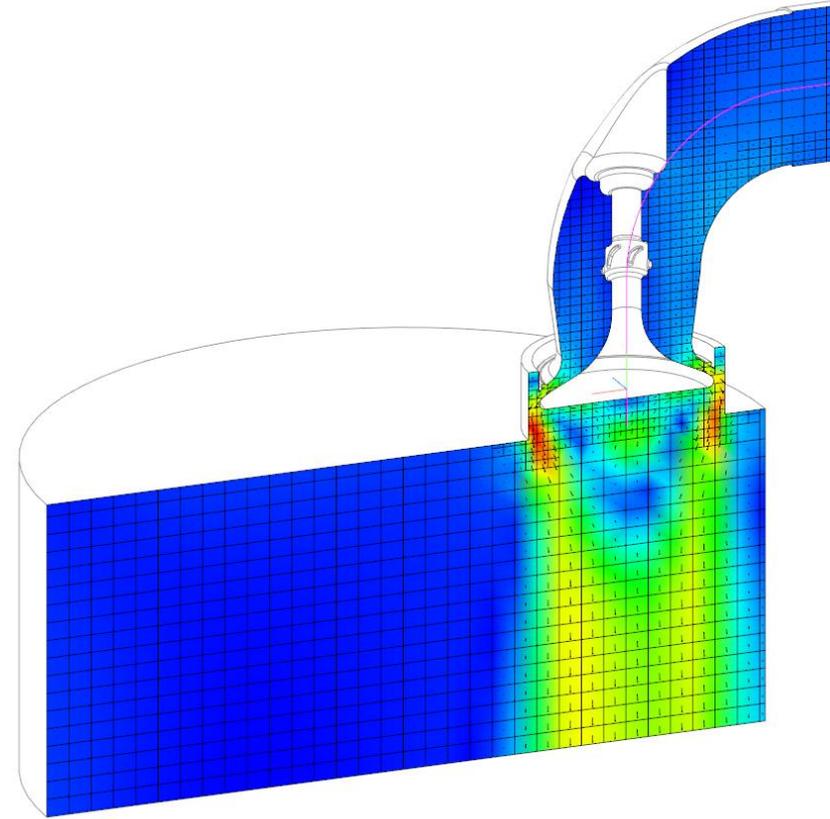
Additional module

- Conical with a circular tooth
- Hypoid gearing
- Planetary
- Globoidal
- Flat-cylindrical
- Novikoff gearing
- Gear optimization



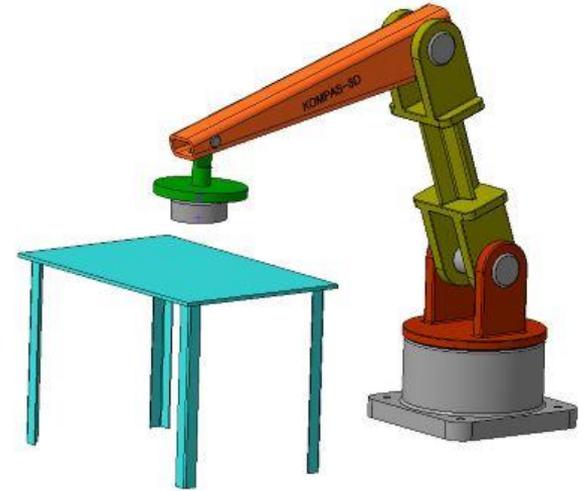
Fluid dynamics. KompasFlow

- Air circulation
- Fluid flow
- Hydrodynamic losses
- Heat removal
- Analysis of cooling efficiency



Animation

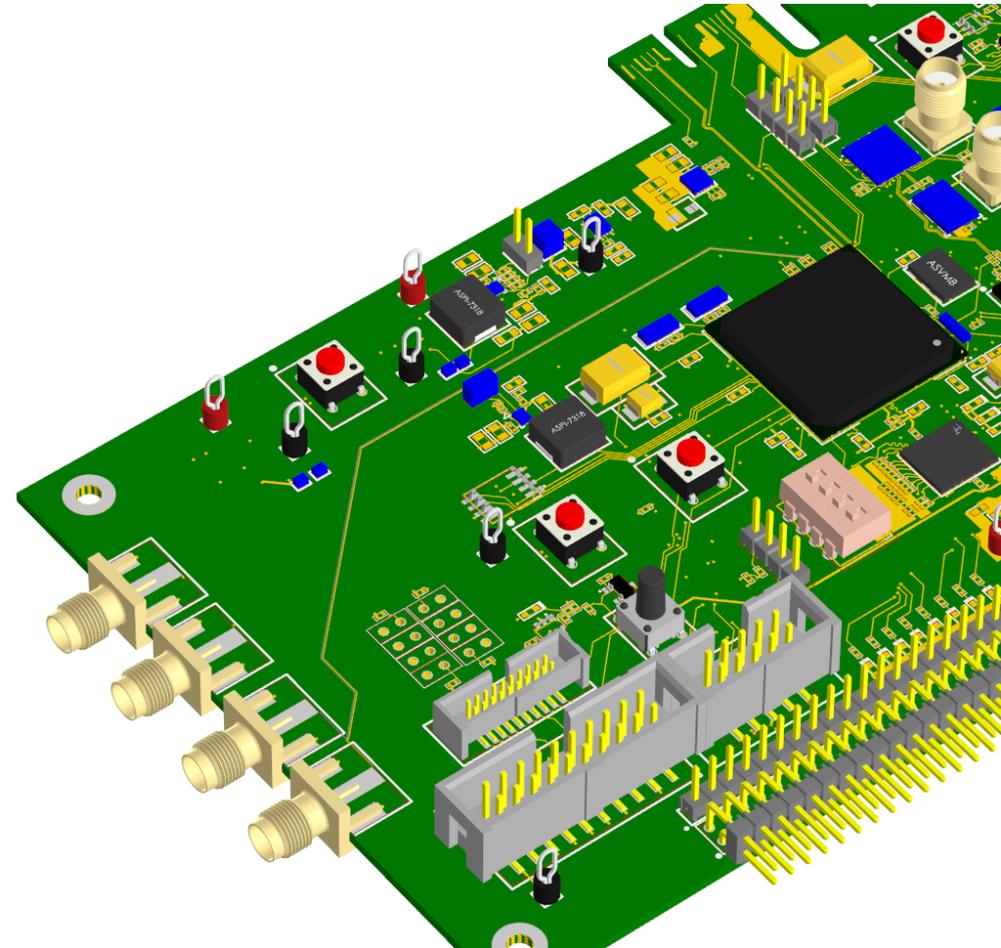
- Animate the models you designed in KOMPAS-3D
- Help identify possible collisions of parts
- Create interactive guides for assembling and disassembling products



3D models of circuit boards

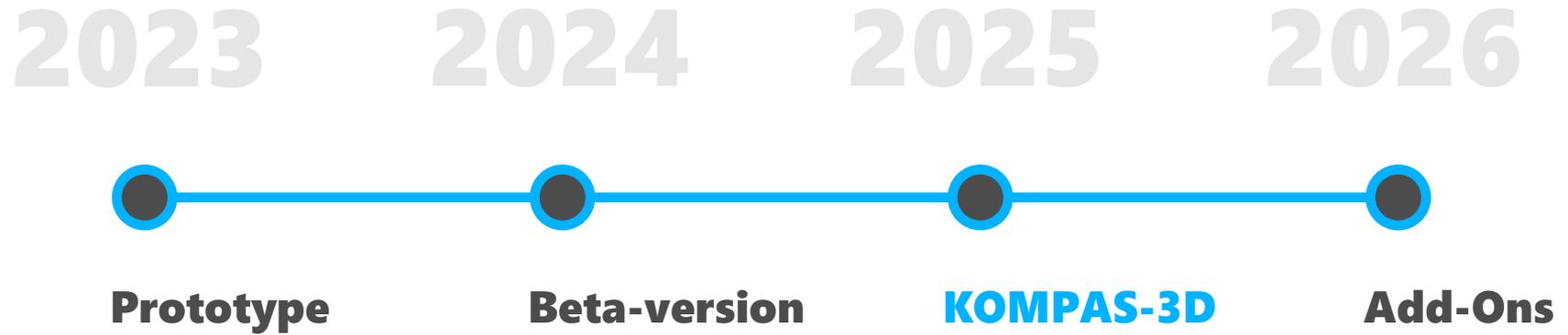
eCAD-KOMPAS Converter

- 3D model of the board
- List of elements
- Two-way conversion



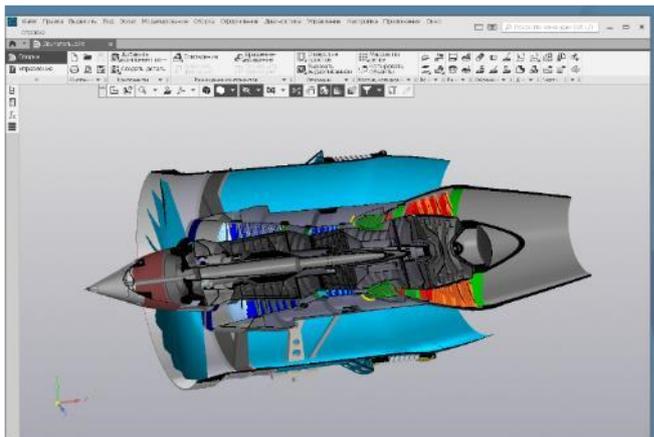
IMPORTANT!

Linux migration plan (The Windows version will also be supported)



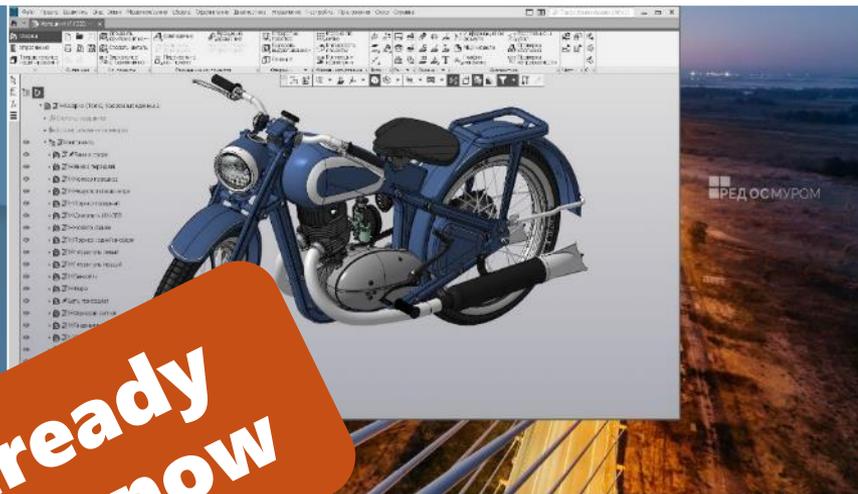
KOMPAS-3D on Linux via WINE@Etersoft

Astra Linux



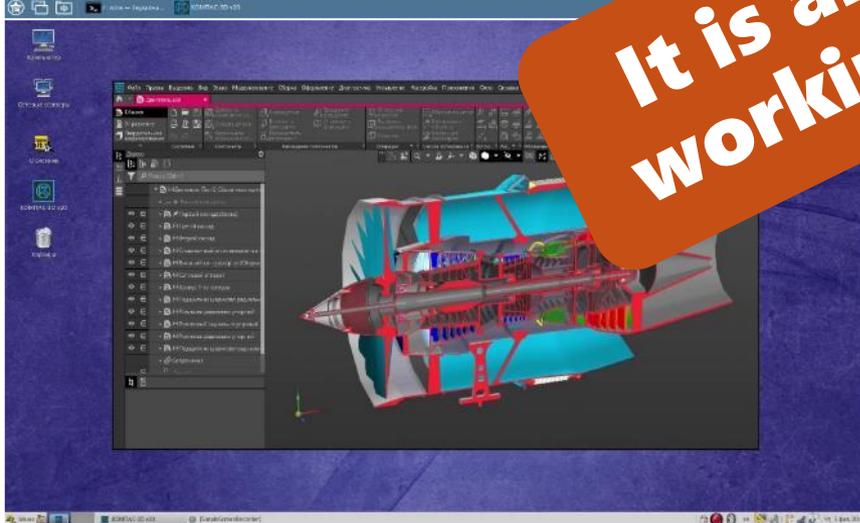
ASTRA LINUX

Red-OS



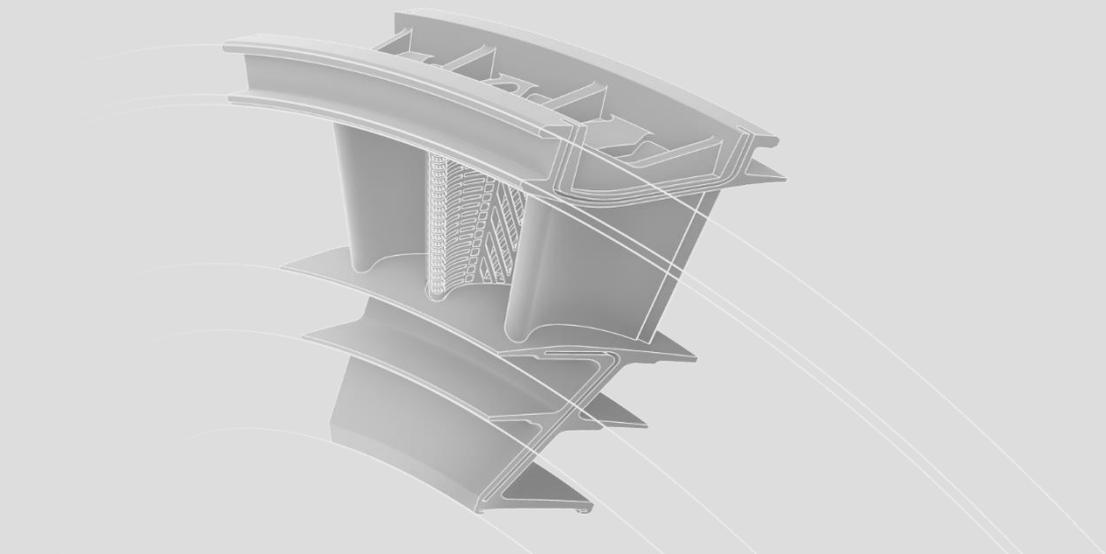
**It is already
working now**

Alt-Linux



ROSA





For more information, please visit our website

<https://ascon.net/>

