

7th Electrical Engineering and
Mechatronics (Recent innovations in
Mechatronics and electronics)

INICAD DESIGN – Romania

**New technologies in manufacturing
simulation software for mold and
CNC industry**

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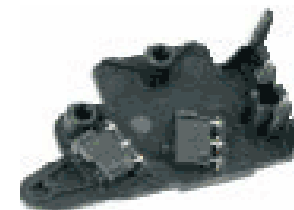
· **INICAD** is an engineering software distribution and consulting company.

· **INICAD** (**IN**stitute for **I**mplementation of **CAD**) reflects the main goal of our company: to improve the classical way of engineering design in Romania and the rest of the Eastern Europe through promoting and **delivering** CAD/CAM/CAE **solutions** to engineering challenges.

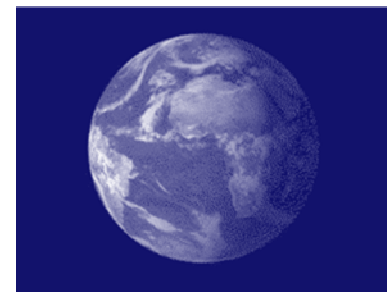




Reference Customers



Worldwide Reference Customers

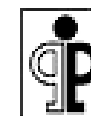


Honeywell

NORTHROP GRUMMAN



Raytheon

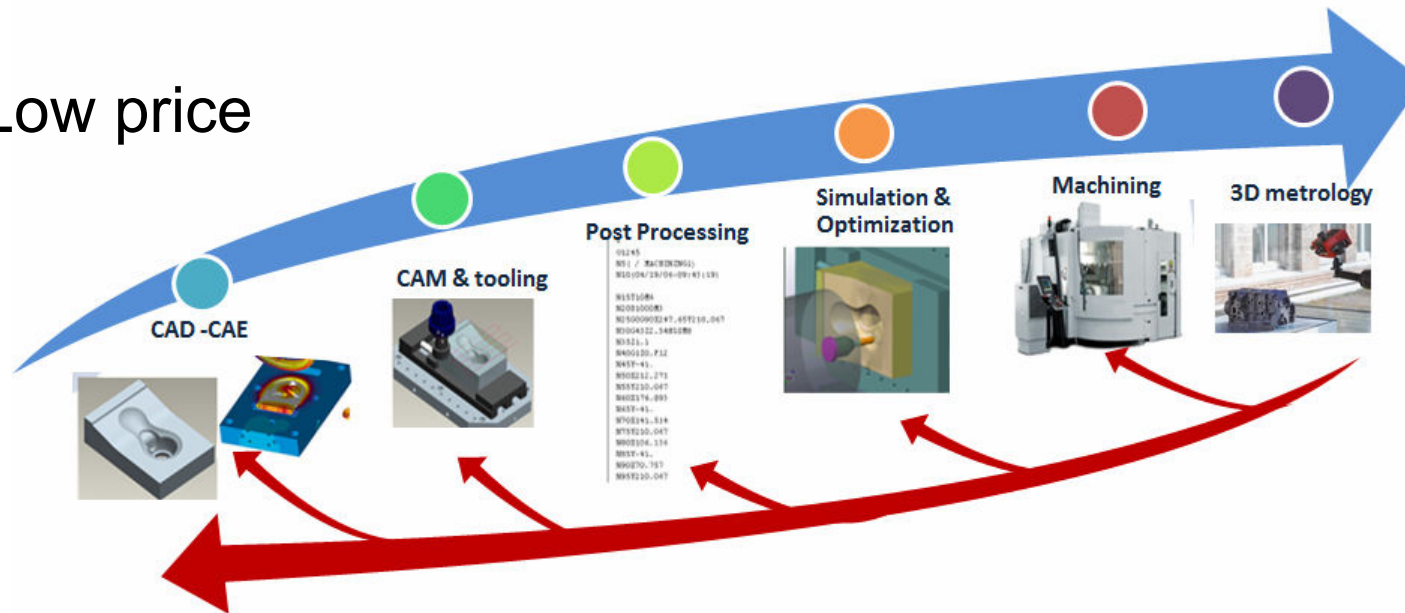


Industrial demands

High quality

Short execution time

Low price



INICAD Design Solutions

Machines
upgrade

 **bielomatik**

Minimal Quantity Lubrication (MQL) Technology



CAD

CimatronE

CAE

CADMOULD®
3D-F SIMULATION

CAM

CimatronE

worknc

GibbsCAM®

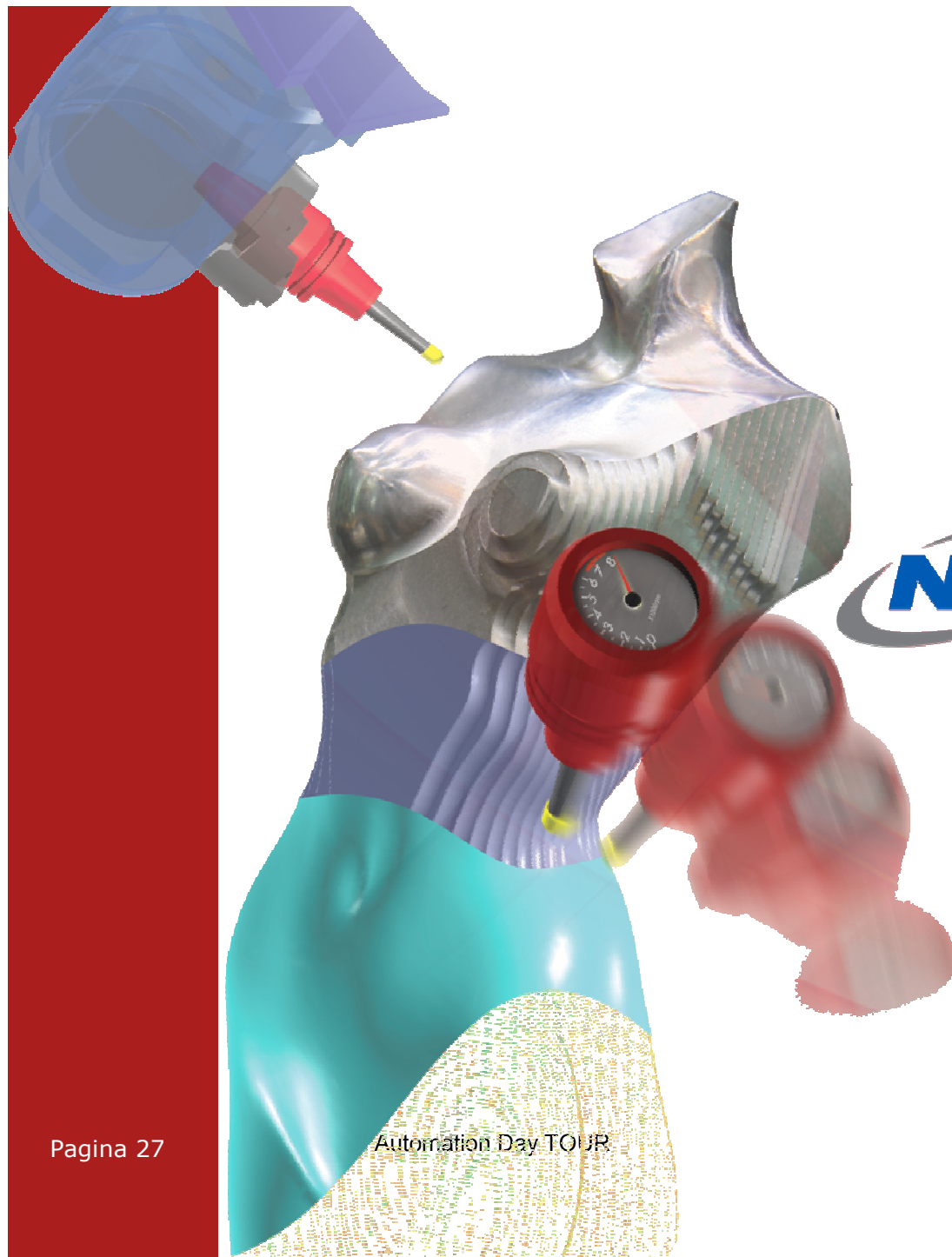
fikus
Visual CAM

Opt.



CIMCO
Integration

NCBRAIN
Digital Brain of the Machining



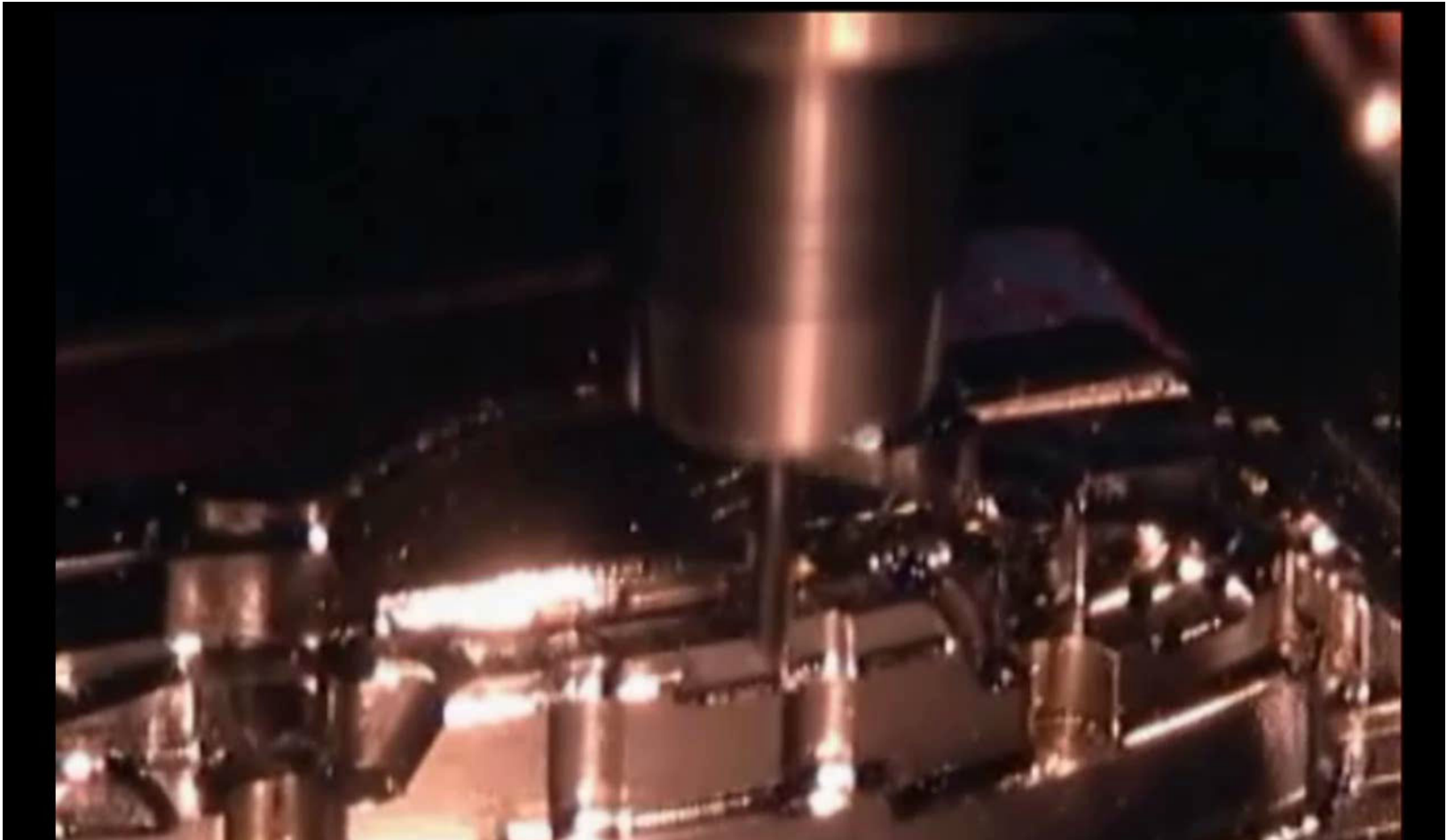
The SPEED
you never imagine
NCBRAIN **5X**

SPEED

SAFE

STANDARDIZATION

Accident that may occur during NC machining



Solve machining problem by 1 simulation



NCBRAIN5X



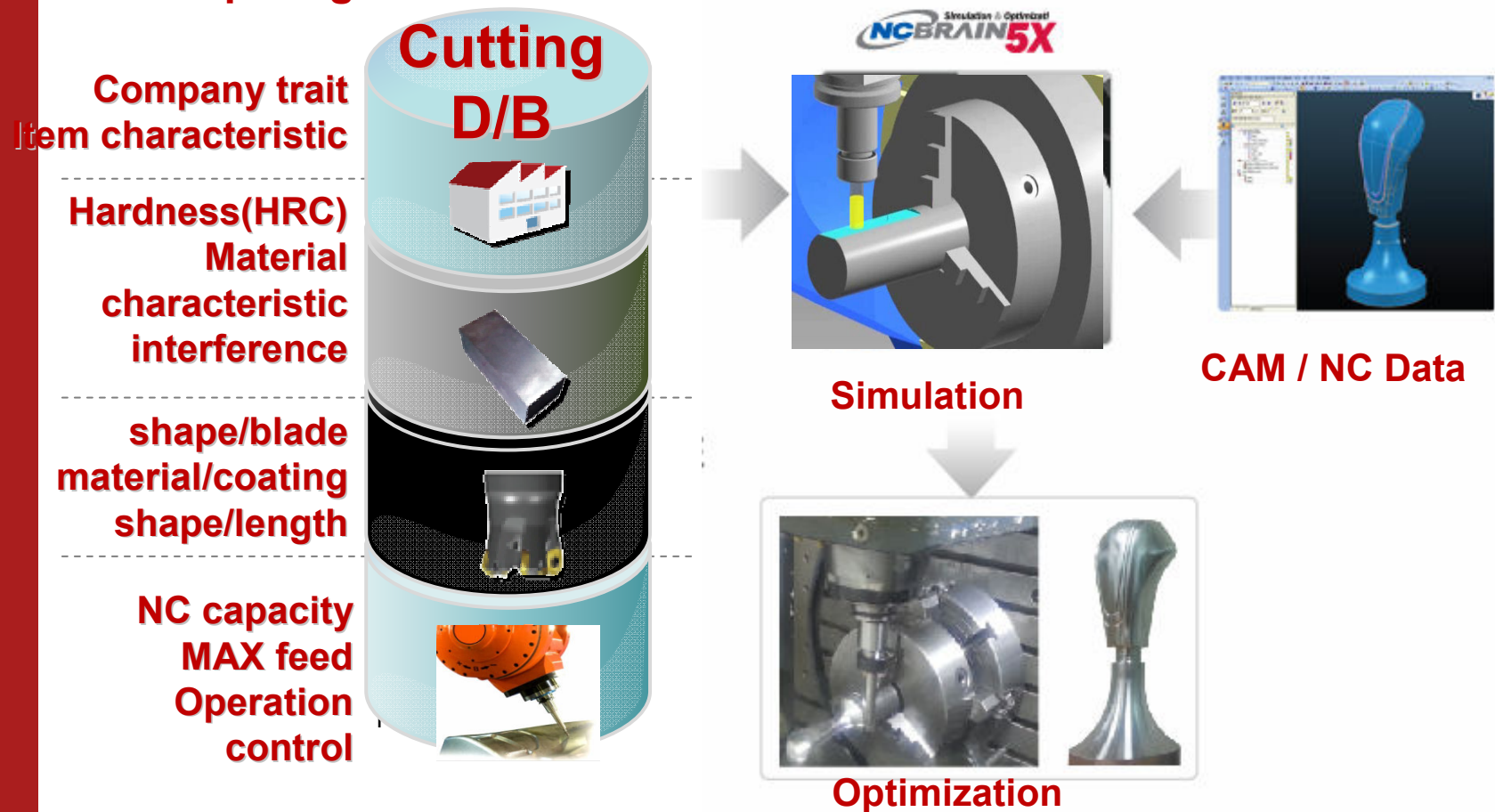
Safest and fastest machining

**Tool breakage, Machine collision
Time exceed, Less/over cutting**

Workshop & Automation Day TOUR

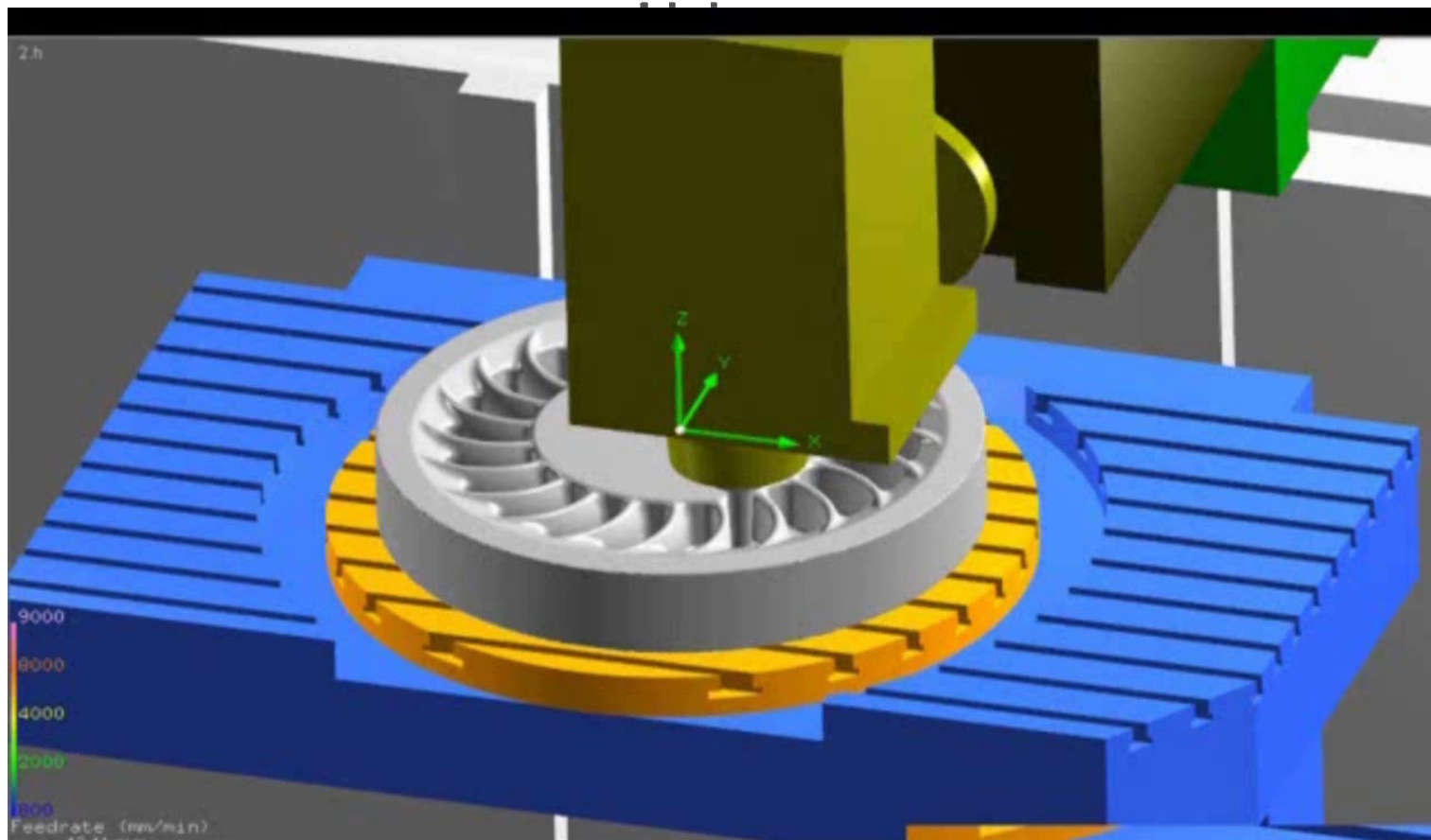
Verification, optimization and simulation by cutting D/B

1. Prevent crash risk
2. Feedrate control
3. Tool path addition on overload area;
4. Aircut deletion
5. Comparing model
6. Comparing EDM cut
7. D/B creation



1. Verification of collision

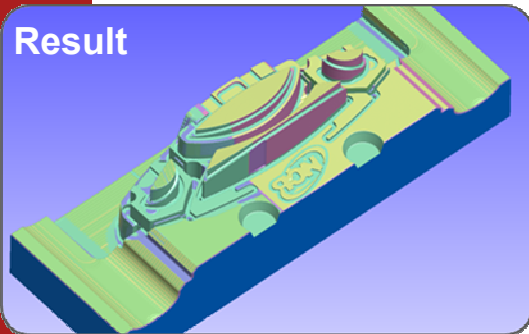
Too many likely collision between stock, Parts & holder in simultaneous 5 axis & tilting 3+2 axis. NCBrain 5X guarantees machine safety of collision prevention by real simulation before



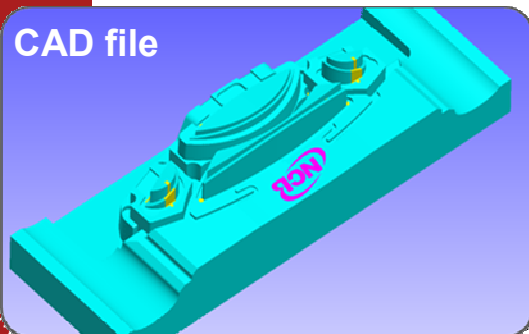
5. Comparing Model

Check over cutting and less cutting between CAD modeling and NCBrain 5X modeling.

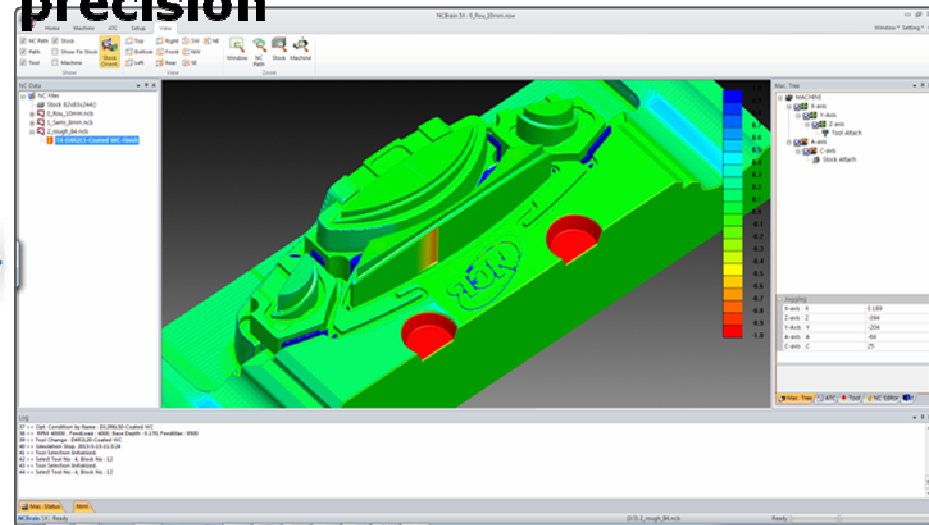
Result



CAD file



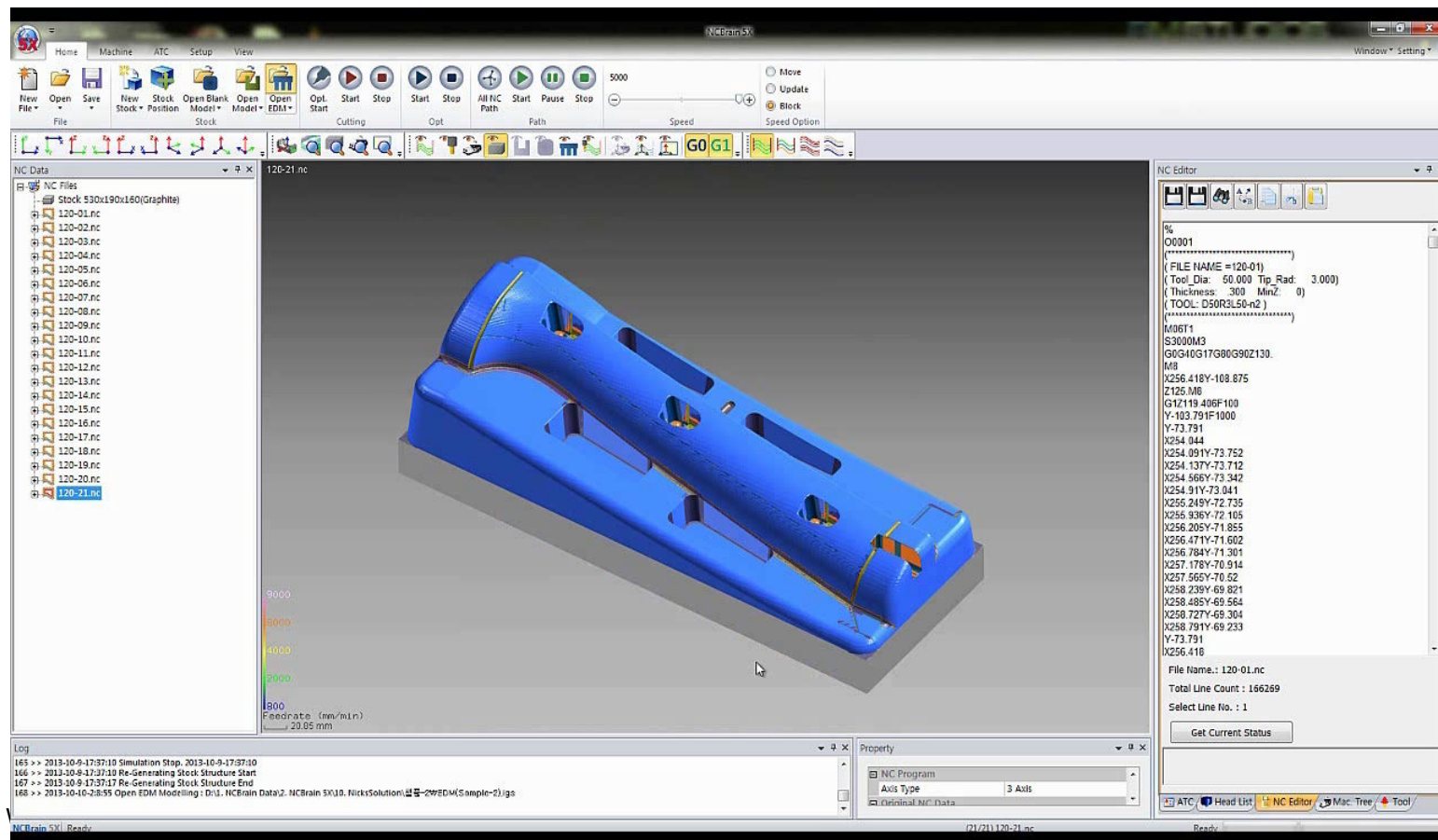
Precision of comparing model
Plane- 0.00001 (excluding surface)
Surface - 0.015 (affect modeling precision)



Over cutting shows **red color** &
less cutting shows **blue color**

6. Comparing EDM Cut

using electrode model to check over/less cutting on
result of product in simulation



Creating D/B by tool, machine and stock.

Tool D/B

Machine D/B

Stock D/B

Type	Material	Diameter	Corner R	Tooth No.	Length	Spindle	Feed Max	Depth	Feed Load	Add Path	NAME
Finish	Coated WC	8	4	2	32	5000	1000	0.3	1000	0.3	D8R4L32...
Finish	Coated WC	8	1	2	32	4000	1500	0.2	1400	0.5	D8R1L32...
Semi-Fini...	Coated WC	16	3	2	64	2500	3500	0.5	33000	0.5	D16R3L6...
Rough	Coated WC	25	5	2	100	2000	5000	0.8	4500	0.8	D25R5L1...
Rough	Coated WC	16	0	2	30	1000	5000	0.5	4000	0.5	D16R0L3...
Rough	Coated WC	21	5	2	84	2100	5000	1	1200	1	D21R5L8...
Finish	Coated WC	2	0.1	2	8	4000	700	0.05	700	0.05	D2R0.1L8...
Finish	Coated WC	1	0	2	4	4000	500	0.03	500	0.03	D1R0L4-...
Finish	Coated WC	6	3	2	24	5000	2500	0.25	2400	0.25	D6R3L24...
Finish	Coated WC	6	1	2	24	3300	1200	0.1	1200	0.5	D6R1L24...
Semi-Fini...	Coated WC	6	1	2	24	3200	3800	0.4	1000	0.4	D6R1L24...
Semi-Fini...	Coated WC	16	0.4	2	64	2500	4000	0.4	1900	0.4	D16R0.4L...
Rough	Coated WC	21	5	2	84	2100	6000	0.6	2500	0.6	D21R5L8...

CIMCO -solutions

