



# MODIG

MACHINE TOOL SWEDEN

Since 1947



HHV 2-Mill

HHV 3-Mill

FlexiMill

RigiMill Aluminum

RigiMill Titanium

GCA 1-2-3

GCT 1

# Key Location Sweden



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HHV 2-Mill

HHV 3-Mill

FlexiMill

RigiMill Aluminum

RigiMill Titanium

GCA 1-2-3

GCT 1

## Three generations

Harry Modig  
1912-1965



Percy Modig  
1951-present

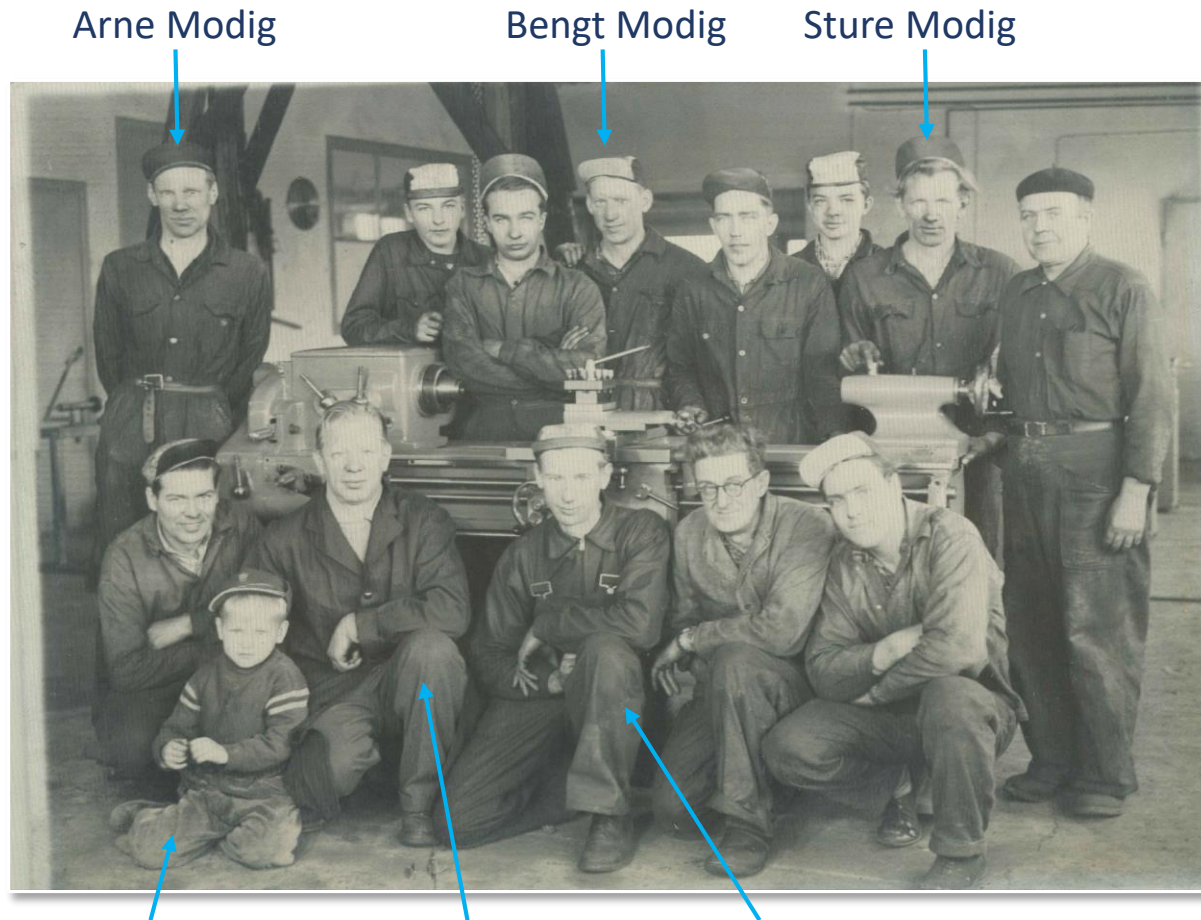


David Modig  
1980-present



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# Modig Mekaniska Verkstad AB



Arne Modig

Bengt Modig

Sture Modig

Percy Modig

Harry Modig

Erik Modig

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HHV 3-Mill

FlexiMill

RigiMill Aluminum

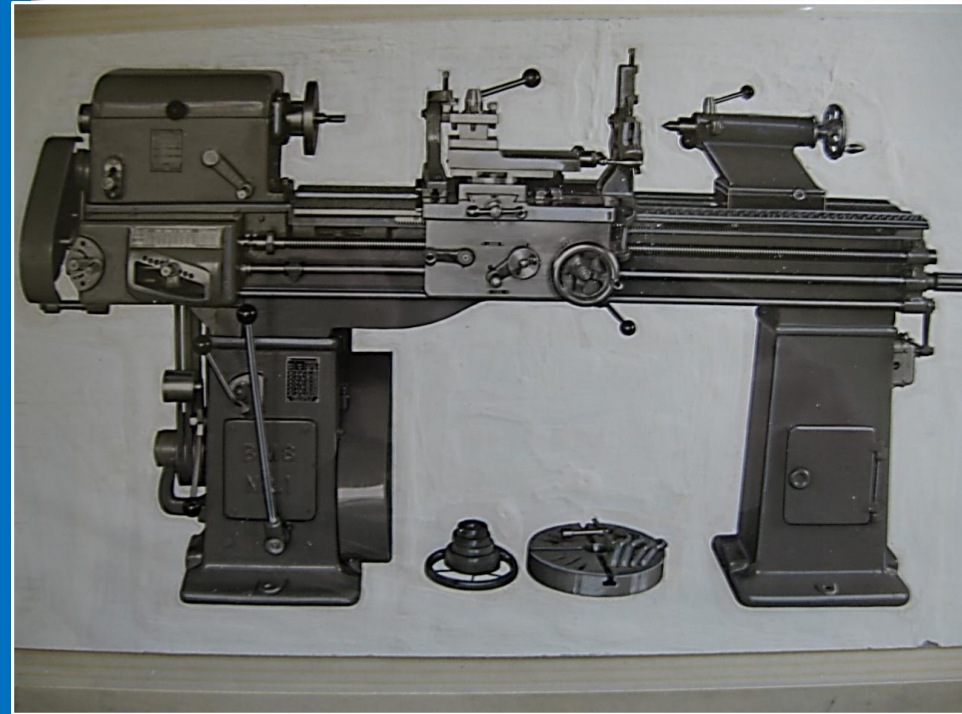
RigiMill Titanium

GCA 1-2-3

GCT 1

# 1950 Lathe BSM No 1

- 1947, Modig Mekaniska Verksstad AB is founded by the brothers; Harry, Arne, Sture and Erik Modig
- The brothers had worked with manufacturing and assembling of machines before the startup of their own company
- Also, two additional brothers were working in the company



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# 1950 Order Book



24578	-"-	Stockholm	2503	hand	550/60
35045	-"-	Wien	2504	hand	330/50
24578	-"-	Los Angeles	2505	hand	220/60
24578	-"-	New York	2506	hand	220/60
24578	-"-	New York	2507	hand	220/60
30011	-"-	Manchester	2508	hand	400/440/50
30011	-"-	Manchester	2509	hand	400/440/50
30011	-"-	Manchester	2510	hand	400/440/50
30043	-"-	Johannes burg	2511	turn	330/50
30043	-"-	Johannes burg	2512	turn	330/50

Order	Köpare	Lex till	Tubnr	Turn	Typ	Meter
24578	Björklund & Co AB	Amsterdam	2501	hand	220/330/50	1/50
24578	-"-	Utrecht	2502	hand	220/330/50	1/50
24578	-"-	Stockholm	2503	hand	550/60	1/50
24578	-"-	Wien	2504	hand	330/50	1/50
24578	-"-	Los Angeles	2505	hand	220/60	1/50
24578	-"-	New York	2506	hand	220/60	1/50
30011	-"-	New York	2507	hand	220/60	1/50
30011	-"-	Manchester	2508	hand	400/440/50	1/50
30011	-"-	Manchester	2509	hand	400/440/50	1/50
30043	-"-	Manchester	2510	hand	400/440/50	1/50
30043	-"-	Johannes burg	2511	turn	330/50	1/50
30043	-"-	Johannes burg	2512	turn	330/50	1/50
30043	-"-	Mesa Veracruz	2513	hand	220/50	1/50
40021	-"-	Holland (Deventer)	2514	hand	330/50	1/50
30021	-"-	Kuala Lumpur	2515	hand	400/50	1/50
40071	-"-	London	2516	hand	400/50	1/50
40071	-"-	Bombay	2517	hand	400/50	1/50

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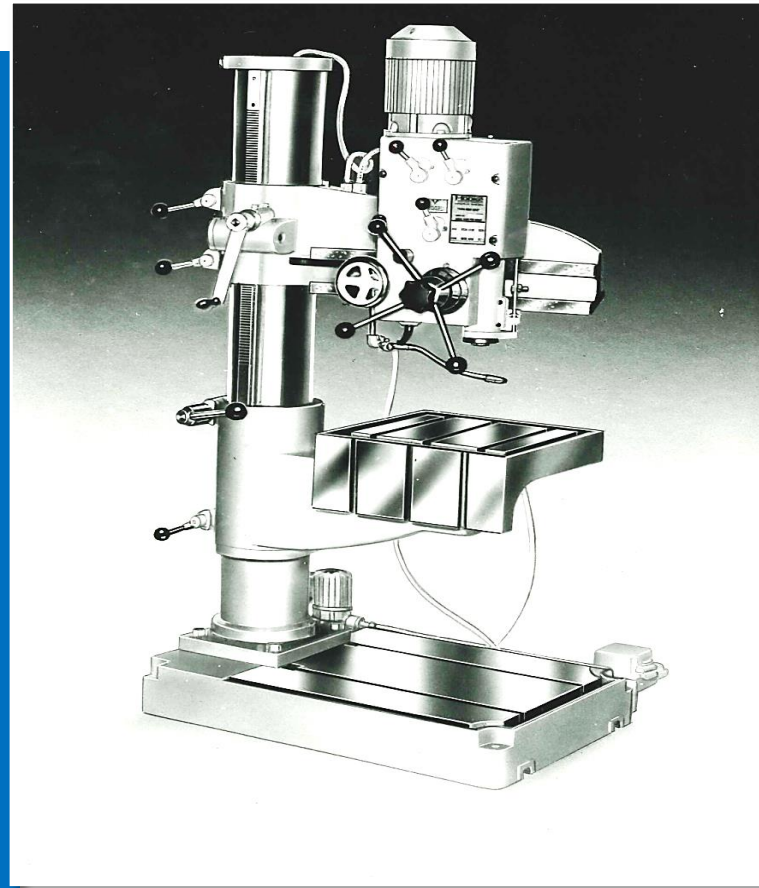
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# 1955 Radial Drill Press RDM 28A



- Harry Modig bought out his brothers in the year of 1955
- Approximately 5,000 radial drills were manufactured between 1955-1985
- About 60% of the manufactured machines were delivered to North America
- 20% to Central- and South America
- 10% to Australia and New Zealand
- 10% to the rest of the world

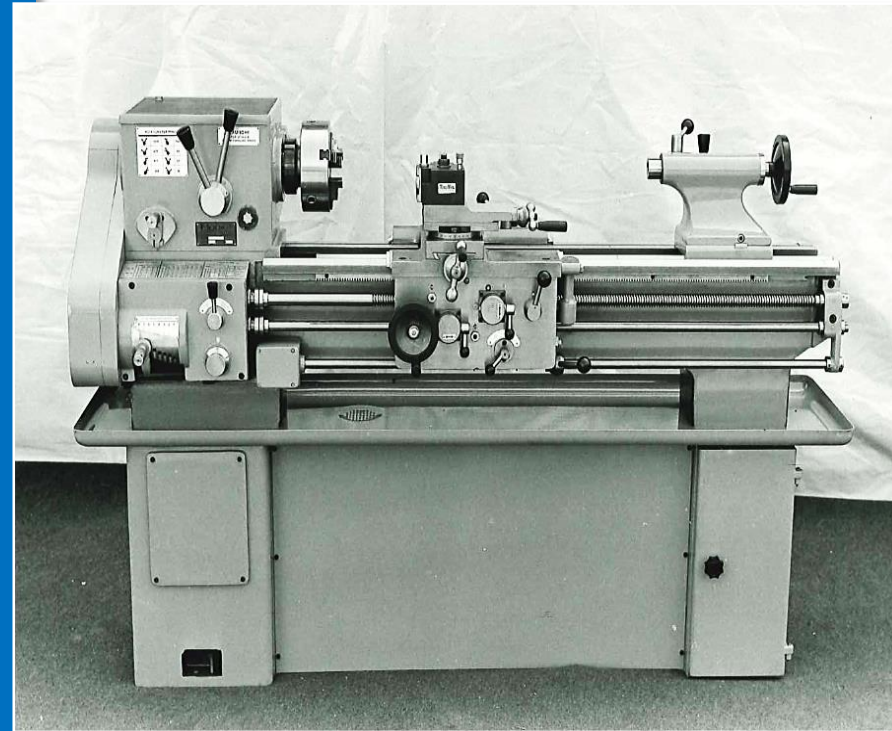


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# 1965 Lathe HF 190



- Modig received an order for 165 lathe units from the Swedish military in 1962 amongst hard competition from the global industry leaders
- In 1965, Harry Modig passed away and Mrs. Ulla Modig became the new manager of the company
- Approximately 100 lathe units were manufactured and sold per year between 1950-1990
- Primarily the lathes were sold to the education and service/maintenance dep.



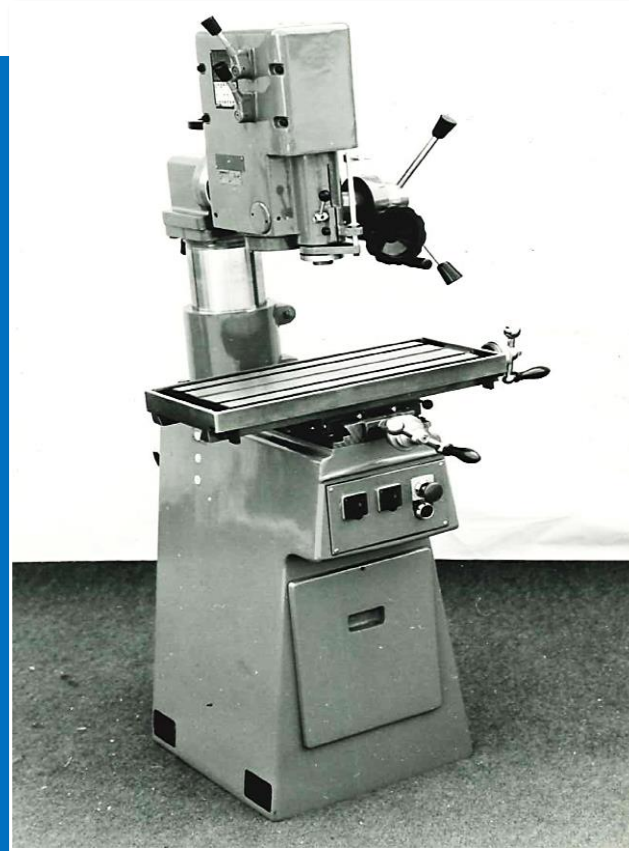
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# 1967 Universal Drilling/Milling Machine UBM30



- In 1967, Percy Modig starts to work in the company
- The company started to manufacture universal drilling and milling machines
- The machines were sold mostly to Scandinavia and North-Western Europe
- From 1967 to 1992 a quantity of 6,000 machines were sold
- More than 3,000 units were sold to Western Germany

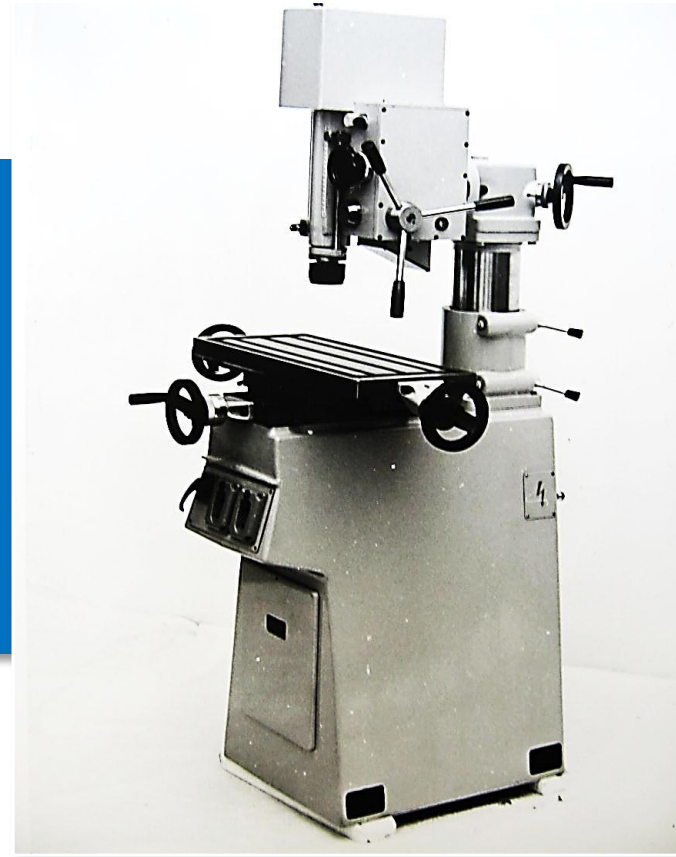


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# 1972 Universal Milling/Drilling UBM AM



- A big brother to UBM 30 were designed
- The company's facility were built out for the 6<sup>th</sup> time
- In 1978, Mrs. Ulla Modig passed away and Percy took over the company



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# 1981 Universal Milling/Drilling UBM 30/AM



- A new generation of Milling-Drilling Machines were introduced to the market
- The revolutionary aspect of the machinery were the enhancement of the precision and the scope of use



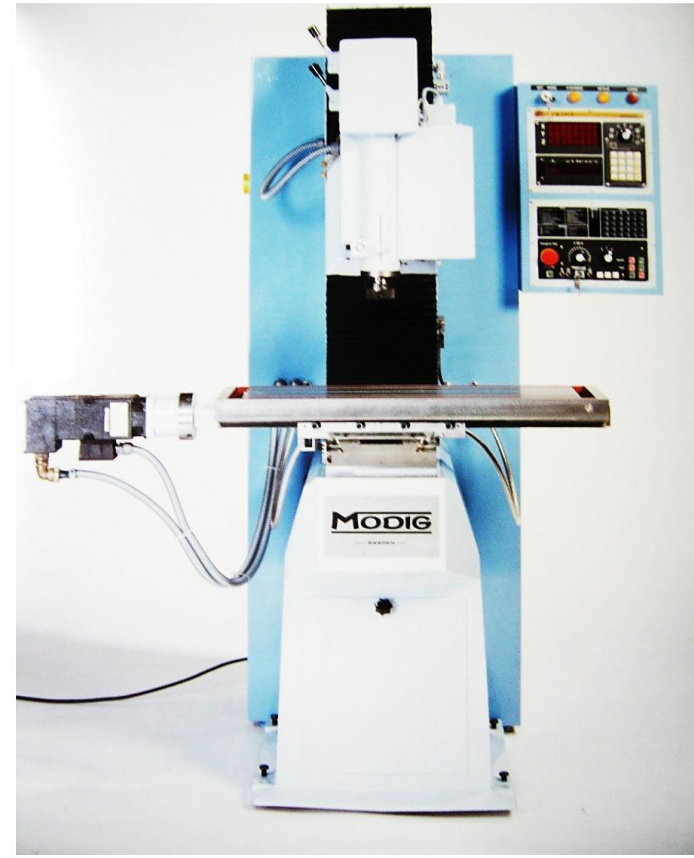
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# 1982 Milling/Drilling Machine

## MD 500



- In 1982, Modig started to integrate a computer based control system for the machine movements



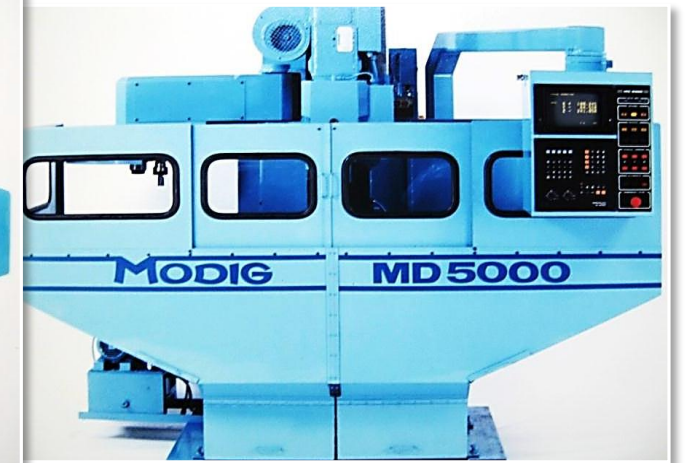
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# 1986 MD 5000 and 6000 Machining Center



- In this time period, CNC machines became more and more common around the world
- Modig started to build machining centers to improve upon sales internationally
- MD 5000 and 6000 were exported in hundreds



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# 1987 High Speed Machining Center MD 7200



- In 1987, the first machining center for high speed machining is introduced to the market
- Modig delivers the first “real” high speed machine in the world and becomes a world leader in high speed machining



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# 1989 UHF Wing Fixture

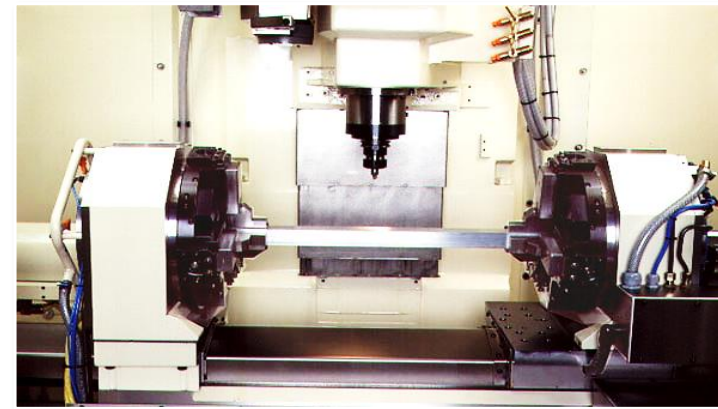


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# 1991 Profileline



- After the success with the first sold special machine to SAAB Military Aircraft, Modig changes their target business segment to the aircraft industry
- Modig develops the profileline which becomes the most popular extrusion machine in the aircraft industry



Profileline  
video

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# 1991 New Collaboration



## New Collaboration With Jugners, Tool & Cutter Grinder 450, 560 CNC

- Modig acquires the world famous tooling & cutting grinding company Jugner, placed north of Stockholm



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# 1992 New Collaboration



## New Collaboration With Demanders

- The year after Modig also acquires Demanders machinery workshop with 45 CNC-machines
- The company made components for Modig and Jungner and was also sub-contractors to Tetra Pak and many others



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# 1996 UHF Chord Trimmer



- Modig builds a specialized machine for Boeing that can take care of aircraft frame parts
- After the deliveries of the new machine Modig receives an award, the award states Modig as the best machine supplier of the year. This is the first time the award is given out to a supplier outside North America.
- 14 systems are delivered



Chord Trimmer  
video

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# Award – Best Supplier



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# 1997 UHF Riveting Fixture

- A special holding fixture for riveting is designed with 72 CNC axes
- The fixture is implemented together with Brötje riveting machine



Riveting  
video

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# 1998 Neos Robotic

- Neos Robotic contacts Modig and requests help with the assembling work of their Robotic machines



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# 1998 UHF Floor Beam Fixture



- An implementation of the Neos Robotic together with the Modig fixture for floor beams is delivered to different customers



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# 1999 Increasing industrial plant area



- The plant is enlarged by 3,000 m<sup>2</sup> including conference rooms and an assembly hall



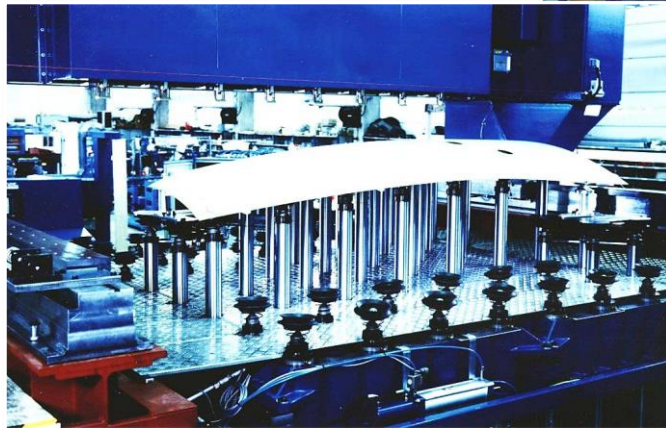
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# 1999 UHF Skin Fixture Laser Scribe



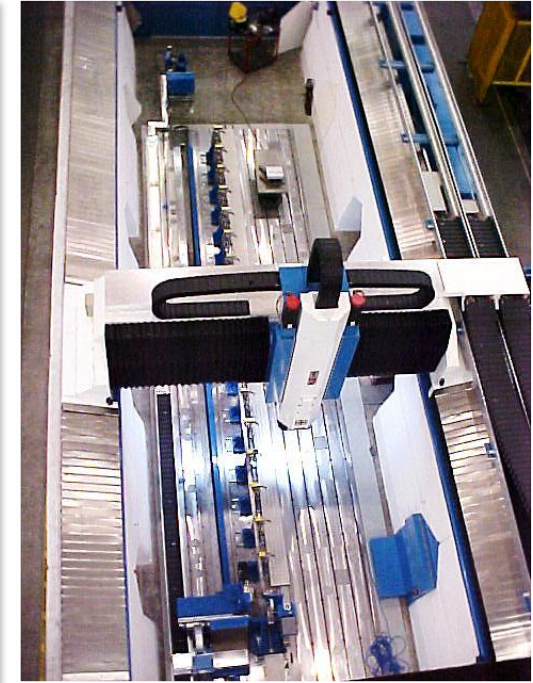
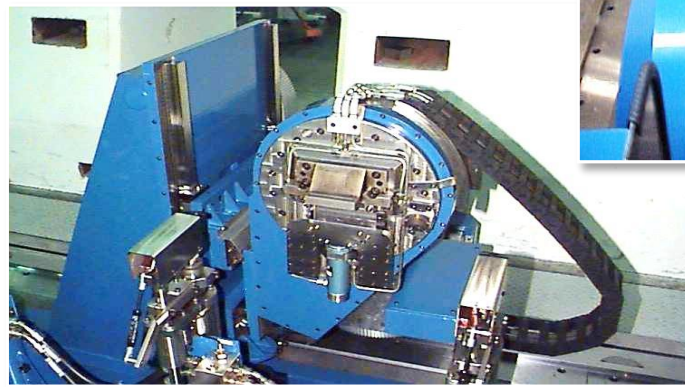
- A new design for Boeing is developed to make the laser scribe process more efficient



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# 2000 Stringer Drill

- UHF stringer drill fixture. The design made it possible to hold a hat stringer in exact position where the machine is operating



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# 2001 Power Flow



- In order to handle very big and heavy extrusions Modig designs the power flow machine. It have two spindles with three axis each working on all sides of the part by rotating around the material.



Power Flow  
video

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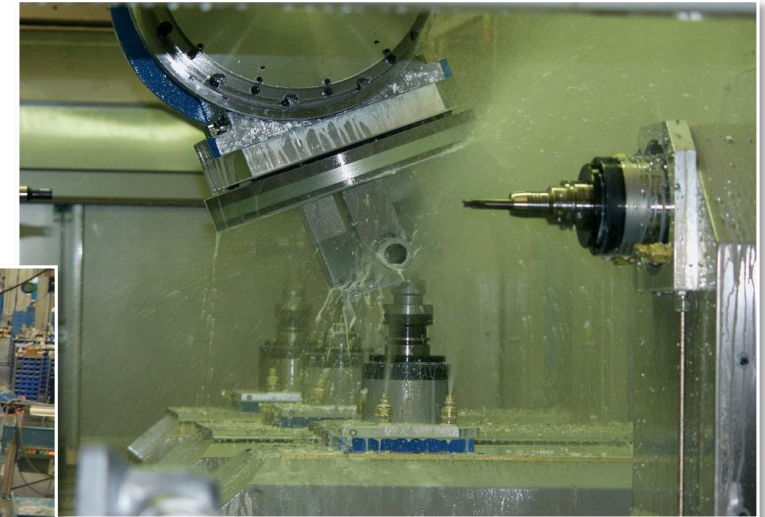
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# 2002 Trans Flex



- Modig develops a new machine for the automotive industry which creates a global interest



Transflex  
video

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# 2006 UHF Chord Trimmer Movable



- Movable Chord Trimmer fixture is designed for Boeing Winnipeg

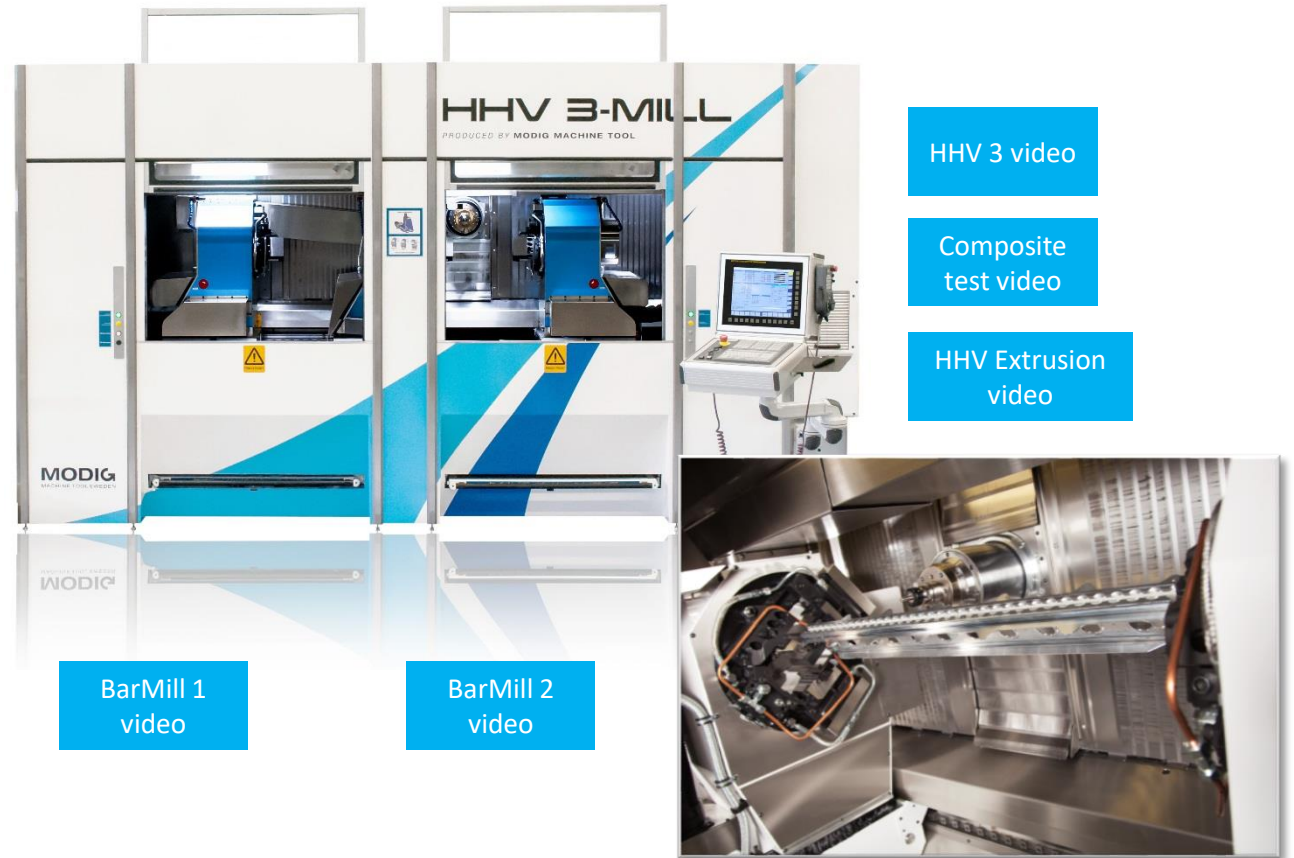


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# 2010 HHV 3-Mill



- Boeing visits the facility and informs Modig that they have a demand for a new machine for processing of aluminum and composite profiles
- Modig gets the purchase order after hard competition with other actors in the market
- 40-80% cycle time reduction compared to conventional machines!



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# 2013 FlexiMill [With Fixtures in front]



- 6-axis horizontal machine
- Multiple different CNC fixtures available
- Working envelope:  
X=6000  
Y=1400  
Z= 1900



FlexiMill  
video

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# 2015 Modig RigiMill



- Worlds first 2 in 1 machine
- One machine for optimal roughing and optimal finishing
- Titanium and aluminum parts possible to machine!
- True “game changer” in milling technology



RigiMill  
long

RigiMill AI  
cutting

RigiMill  
Animation

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HHV 3-Mill

FlexiMill

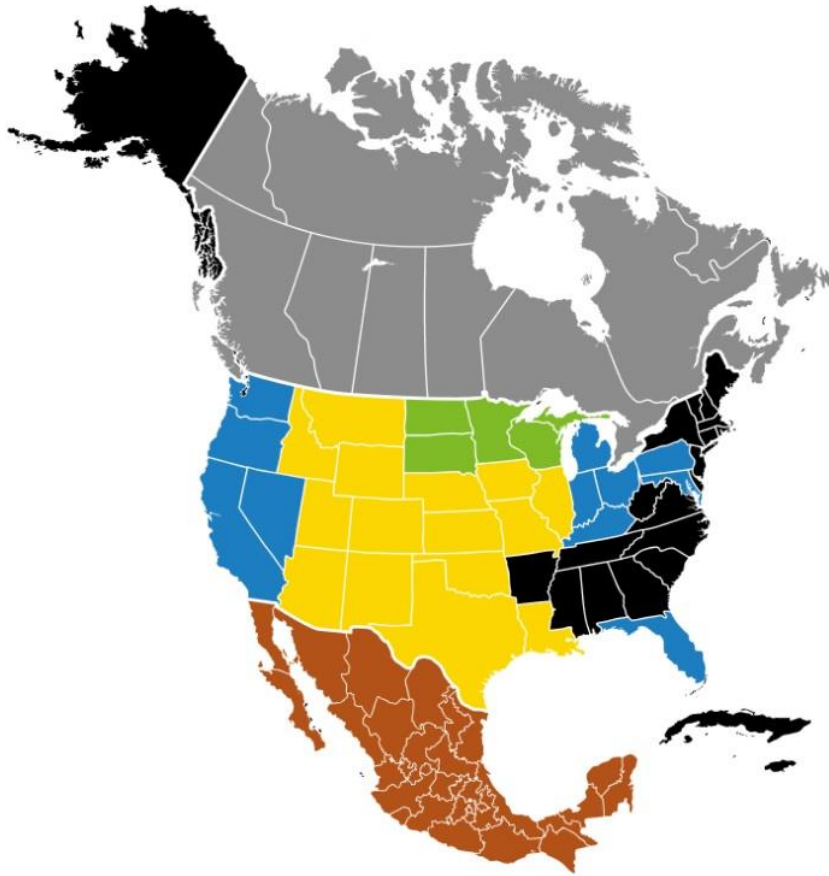
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# 2016 Modig US



Keith Lopez  
President Modig US



Gosiger Inc.

Hartwig Inc.

Matrix Machine Tool

EMEC – Canada

HEMAQ – Mexico

Modig US

Open  
projects

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# 2017 HHV 2-Mill



- Extrusion machining within 6"x10" cross section
- 40-70% cycle time reduction and minimum 30% raw material savings compared to conventional machines!
- Machining in aluminum and composite



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# 2017 World Record



*October 4<sup>th</sup>, 2017*  
**New World Record in Chip Removal  
with 1,001 cu<sup>3</sup>/min!**

- Material Type: SS7075
- Spindle Speed: 18,000 RPM
- Spindle Power: 295 HP (220kW)
- Chip Volume: 52.3 gallons (198 liters)
- Solid Material: 1,001 cubic inches/min (16.4 liters/min)

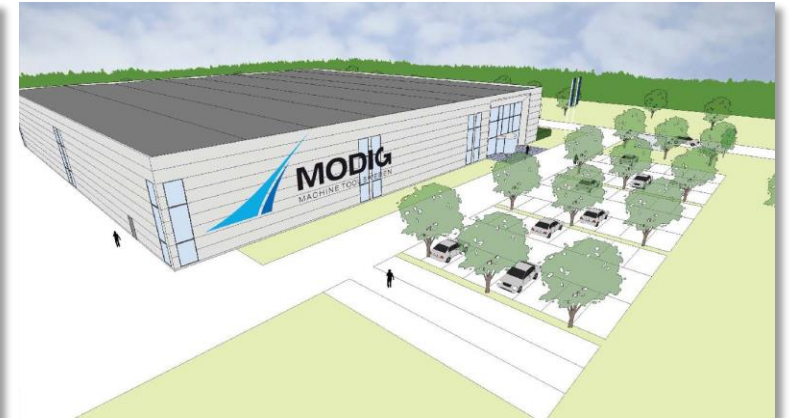


World record  
video



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# 2018 New facility



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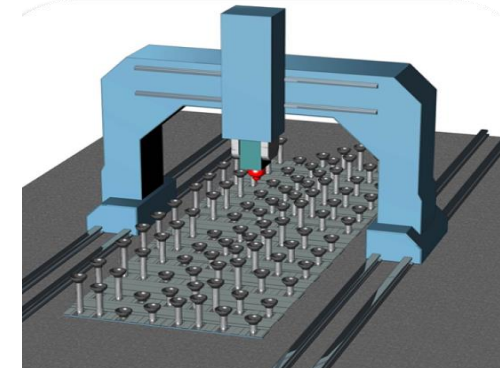
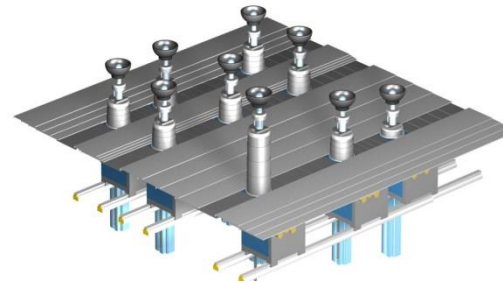
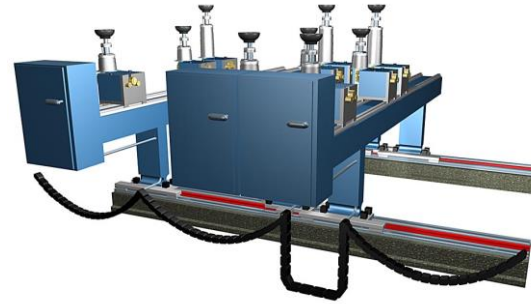
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# Future – UHF Variable Pitch



- 3-axis CNC controlled movable actuators for supporting aircraft panels



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# Customers – Aircraft industry



Gulfstream®



Raytheon



BOMBARDIER



HELLENIC AEROSPACE  
INDUSTRY LTD



Fleet Industries Ltd

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