

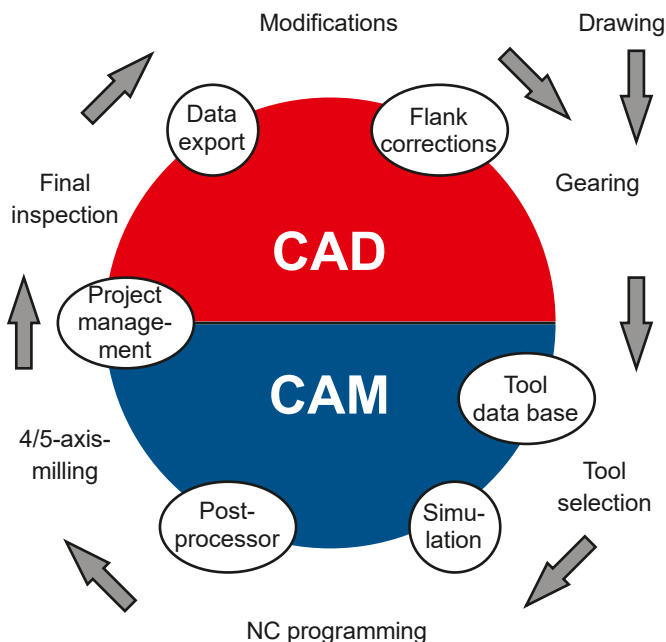
## **The CAD/CAM Solution for Highest Precision**

**For use on multi-task and universal milling machines for economical machining of**

- **gear wheels in special materials**
- **small-sized batches**
- **replacements**
- **prototypes**



## 4- and 5-Axis Milling of Gear Wheels Flexible and Practical

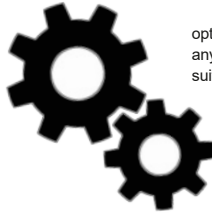


## Why EUKLID GearCAM? This is Why!

- clear and straightforward user interface
- all geometries represented as surfaces with uncompromising accuracy
- this applies also after individual flank corrections
- derivatives analytically calculated, not approximated
- toolpaths calculated on surfaces, not on points
- therefore after modifications usually no adjustment of the NC program required
- new wheel similar to one stored previously, may be handled as modification

With his full confidence in the geometry stored and the accuracy of the calculations, the user can fully concentrate on the quality of the manufacturing process. This can be influenced by a set of practically proven parameters.

## The Precise Way To Manufacture Gears...



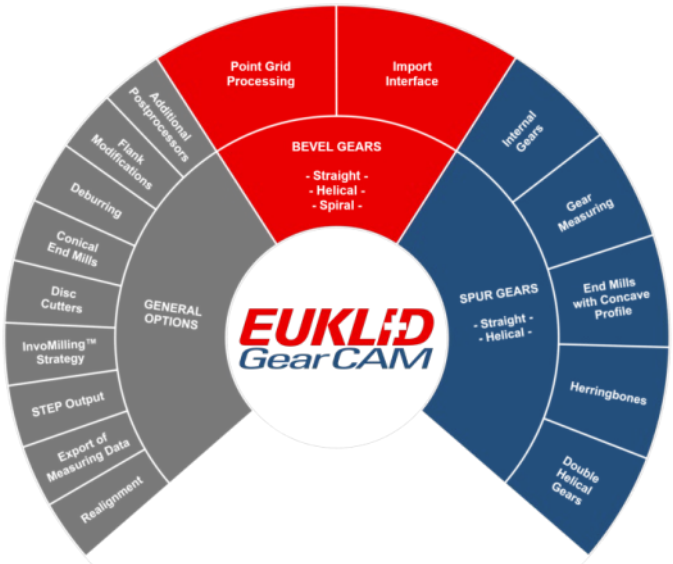
optimal tool paths with  
any CNC control on any  
suitable milling machine

proven in practice  
and reduced to the  
essentials

constantly improved  
and developed

- ✓ spur gears
- ✓ bevel gears
- ✓ double helical gears
- ✓ internal gears
- ✓ special designs

## Tailor-made Solution for the Customer Modular Structure



> 40 Years of EUKLID • Made in Switzerland



Source: GIF MBH & CO. KG

Double helical gears with or without  
center groove ("herringbones") can  
be manufactured by 4-axis machining.

External spur gears and straight bevel  
gears can utilise Sandvik Coromant's  
patented **InvoMilling™** process.

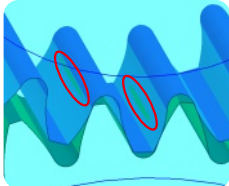
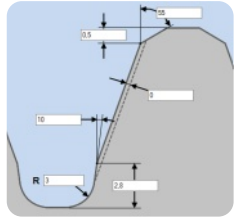


Source: Sandvik Coromant

## CAD - Mathematically Perfect

### Clarity from the Beginning

- uncompromising accuracy
- easy intuitive handling
- comfortable project management



Simulation gear wheel: detail with flank corrections

## The $\mu$ Makes the Difference

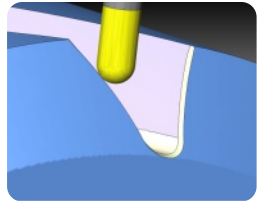
### Individual Flank Corrections

- flank line and profile modification
- tip and root reliefs
- in any combination, asymmetrical and individual for each flank

## CAM - The Fast Way to the Goal

### With Precise Data to the Machine

- optimal tool paths
- special milling strategies
- internal tool data base
- easy, fast and clearly arranged



Deburring the tooth ends



## Supported Tool Types

### Diversity in Form and Use

- standard end mills
- conical end mills
- end mills with concave profile
- disk or InvoMilling™ cutters

From a Single Source • Modular Structure



Source: GIF MBH & CO. KG

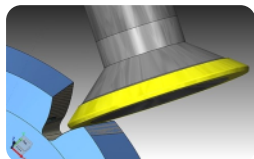
Manufacture **bevel gears** without restrictions. No matter whether according to **DIN** or **Klingelnberg** or **Gleason**.

**Spur gears** of any type **straight**, **helical**, **double helical** and **herring-bones** are programmed in a very short time for readiness to milling.

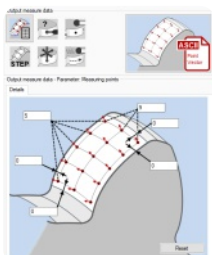


## Performance Plus InvoMilling™

**PATENTED**



- flexible, efficient programming and production of gears
- one milling tool for different gearing modules
- possibility of various protuberance angles, profiles and radii at the tooth root

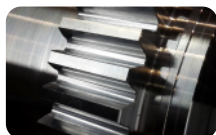
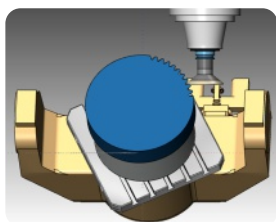


## Export of Measuring Data and Geometry Trust is Good, but Control is Better

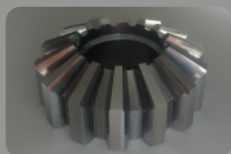
- STEP output of gearing geometry
- preformatted measuring grid output
- measuring data for realignment of gears on the machine

## Highly Accurate Simulations Know in Advance what Happens

- fast cutting simulation
- accurate machine simulation
- ideal set-actual comparison
- 3D data model of machine



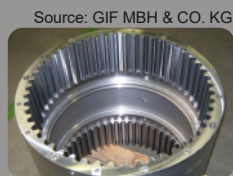
Mathematically Perfect • [www.euklid-cadcam.com](http://www.euklid-cadcam.com)



Source: Richmann Walsh  
Engineering Limited

You need **special gears**? No problem, ask Euklid, challenge us. We are happy to help solve your tasks.

Depending on the circumstances, the machining of **internal gears** can be divided into segments or as a whole by means of crosshead.



Source: GIF MBH & CO. KG

# EUKLID

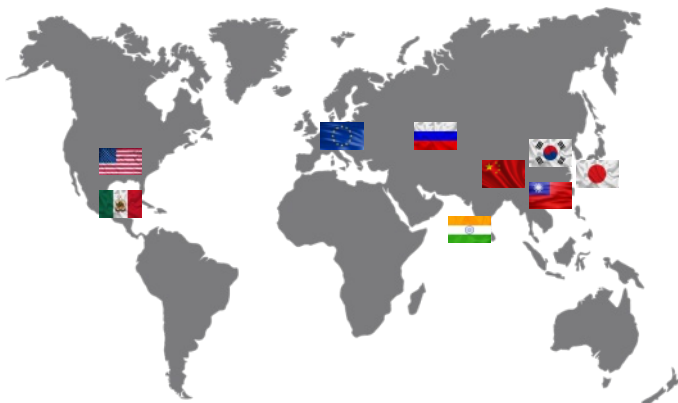
Solutions for CAD/CAM

EUKLID CAD/CAM is a highly efficient 3D CAD/CAM system for tool, mold and model makers.

EUKLID CAD/CAM software and our specialists support you in the manufacturing process of complex geometries. More than 40 years of expert knowledge and practical experience form the basis of our successful development concept:

- 3D modelling in CAD suitable for production
- practice-oriented 2.5 to 5-axis machining
- own, individually created postprocessors with intelligent program structure including subroutine technology

No matter on which continent you are located, we are happy to advise you regarding the possibilities the EUKLID CAD/CAM system or EUKLID GearCAM can provide to you.



Ask Euklid, ask us: challenge us! Even for the most difficult tasks in the manufacturing of complex surfaces a solution can be found.

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