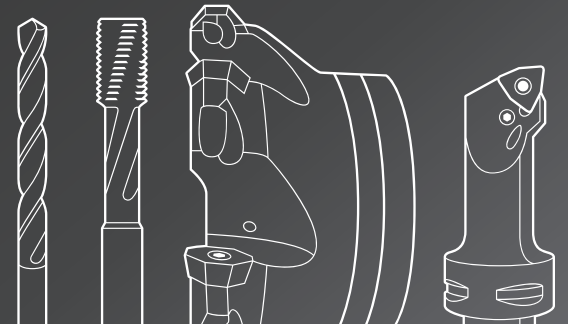


# iCut

Process reliability and  
shorter machining cycles



# When planning meets reality...

**Allowance variations**

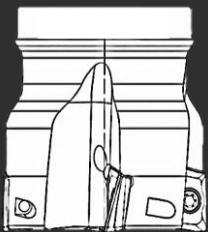
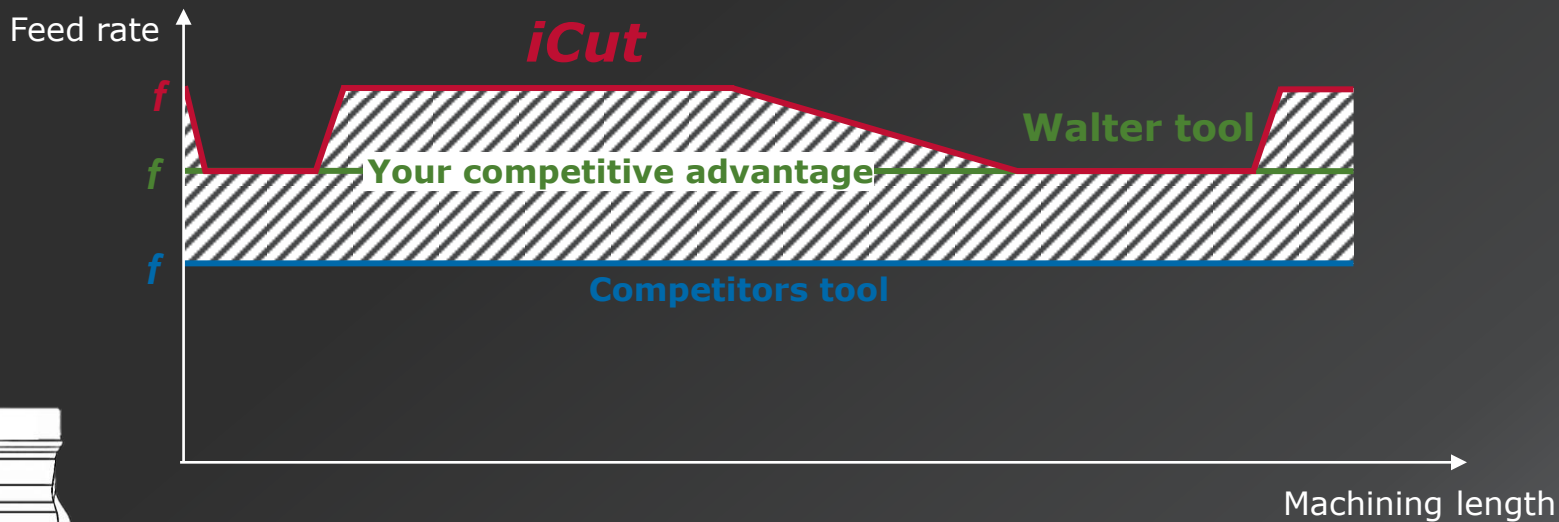
**Incalculable tool wear**

**Air cuts**

**Varying milling cutter engagements**

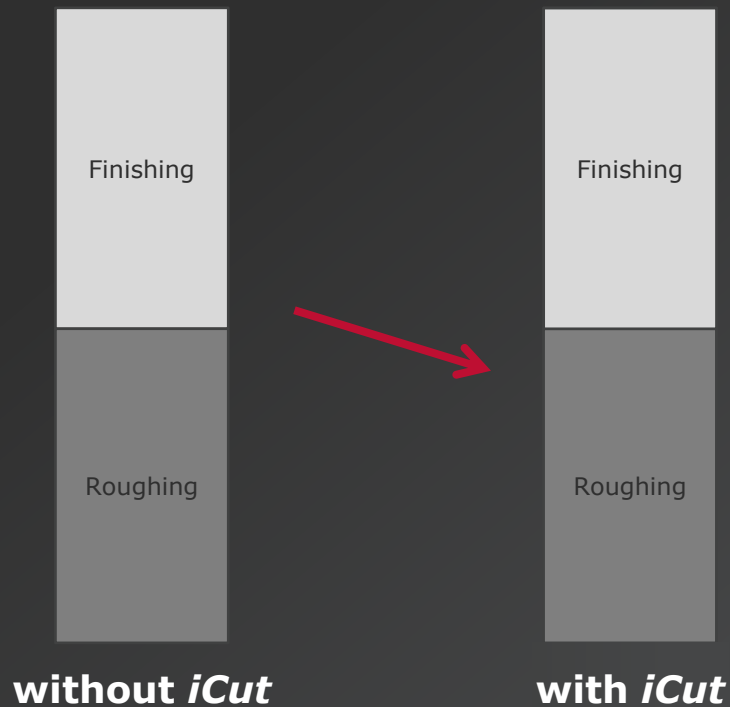
**Workpiece structure fluctuations**

# Vorteil Multiply: Machining solutions from a single source





# Reduce your machining times



# Reduce machining times and increase process reliability at once

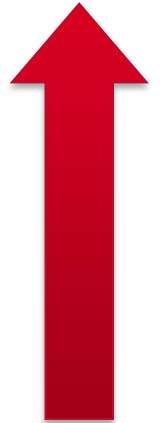
## Machining time

- Faster „Air cuts“
- Adapt feed rates to varying milling cutter enlacements and different cutting depths



## Process reliability

- No overload of the tool  
→ Prevent tool breakage
- Prevent spindle overload
- Protect your machine



# iCut main user interface for Siemens controls

The screenshot shows the iCut main user interface for Siemens controls. The interface is divided into several sections:

- Top Status Bar:** Displays channel information (65, CHAN1), mode (Auto), and program details (MPF.DIR, FEHLER.MPF). It also indicates "Channel active" and "Program running".
- Control Panel:** Includes a "Remain. dwell time: 3 Sec." indicator, a "ROV" button, and an "iCut On/Off" toggle.
- Program Parameters:** Shows "program name: \_N\_TEST1\_MPF", "material group: low-alloy cast iron" (selected in a dropdown), "tool: FRAESER1", "correction, %: 102", and "machining time[s]: 45.569".
- Real-time Monitoring:** Features two graphs: "feed, mm" (top, green line) and "machine load, %" (bottom, blue line). Both graphs show a fluctuating signal over time, with a dashed horizontal line at 100%.
- Control and Settings:** Includes input fields for "feed, mm: 75" and "S1: 65", and buttons for "settings", "correction up", and "correction down".
- Bottom Bar:** Contains buttons for "zoom 50%", "spindleborder on off", and "info".

The iCut logo and COMARA trademark are visible in the bottom left corner of the interface.

# iCut settings user interface for Siemens controls

CHAN1    Auto    MPF.DIR  
FEHLER.MPF  
Channel active    Program running  
Remain. dwell time: 6 Sec.    ROV

program: TestAchter    tool overview

tool	min. feed[%]	speed, rpm	diameter, mm
BOHRER1	81	2101	31
FRAESER1	82	2102	32
BOHRER2	83	2103	33
FRAESER2	84	2104	34
	0	0	0
	0	0	0
	0	0	0
	0	0	0

state: apply  
 material entry time[s]: 0.5  
 material entry feed[%]: 100  
 exit load[%]: 0  
 exit feed[%]: 100

tool: FRAESER1  
 reaction: none  
 % till overload: 80  
 % max. in material: 150  
 % max. in air: 130  
 tool filter: 0.025

idle load[%]: S1 S2    max. load[%]: S1 S2    max.: S1 S2  
11.2 12.2    31.2 32.2    51.2 52.2

spindle exchange    select files    delete file(s)

row up  
 row down  
 main page  
 statistics



# iCut statistic user interface for Siemens controls

iCut    CHAN1    AUTO    MPF.DIR  
TEST1.MPF

Kanal aktiv    Programm läuft

ROV

program: TestAchter    tool overview

tool	runtime teachin[s]	runtime with iCut[s]	saving[s]	saving[%]
T3.10	8.939	5.787	3.152	35.261
T3.2	6.108	5.327	0.781	12.787
T4	0	0	0	0
T4.1	5.108	3.744	1.364	26.703
T4.2	0	0	0	0
T4.11	5.1	3.736	1.364	26.745
T4.21	2.22	1.552	0.668	30.09
T6.1	5.124	3.928	1.196	23.341
T6.2	5.132	4.048	1.084	21.122
T10.1	17.324	14.984	2.34	13.507
T10.2	17.332	14.488	2.844	16.409
T1.1	24.94	20.704	4.236	16.985
T1.2	25.06	20.936	4.124	16.457
T20.1	11.46	8.672	2.788	24.328
T20.2	0	0	0	0
T8.1	19.188	14.848	4.34	22.618
T8.2	19.3	14.76	4.54	23.523
T3.21	6.116	5.136	0.98	16.024
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

row up

row down

main page

settings

# Using iCut

## Programming

**ICUT\_ON**  
(**"Txxx.y",z**)

Txxx	Tool no.
y	Cut no.
z	Radius

**ICUT\_OFF**

## Teach-in

Teach-in operation record:

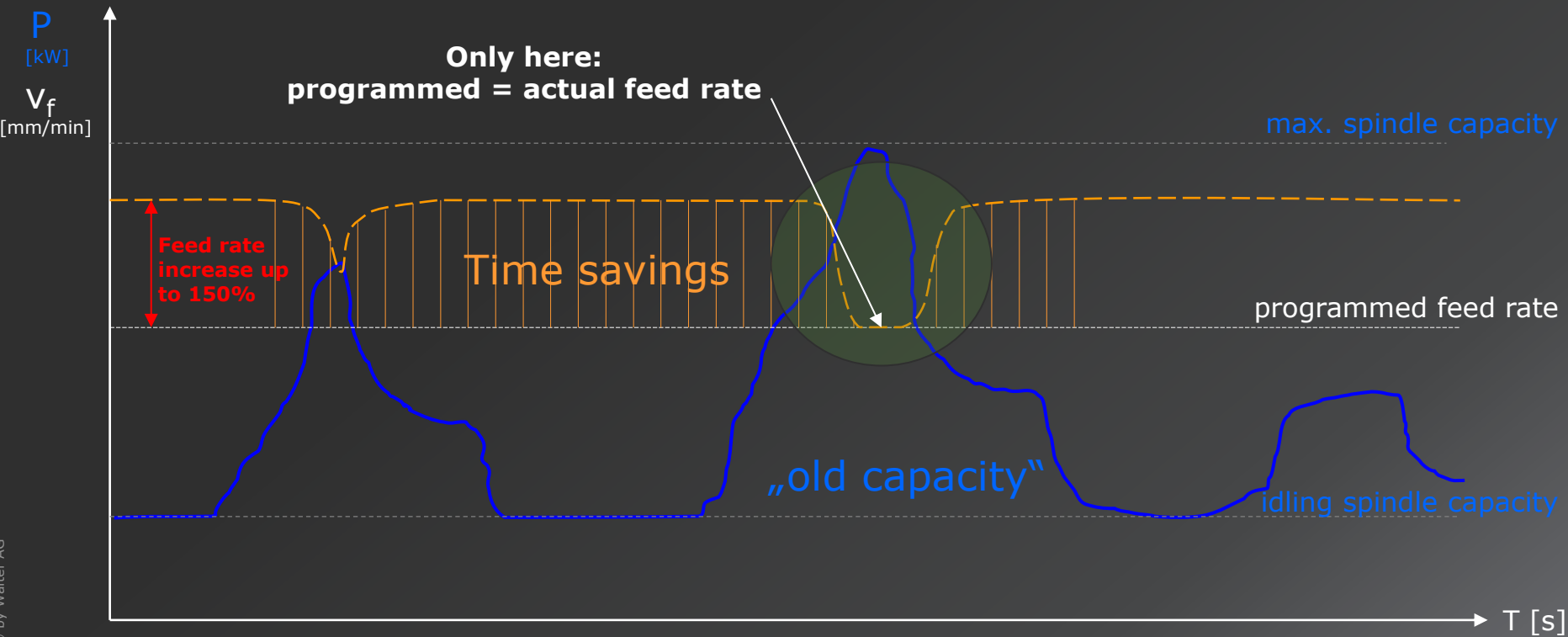
- **Idling spindle capacity**
- **max. cutting capacity per cut**

## Apply

Adjust parameters:

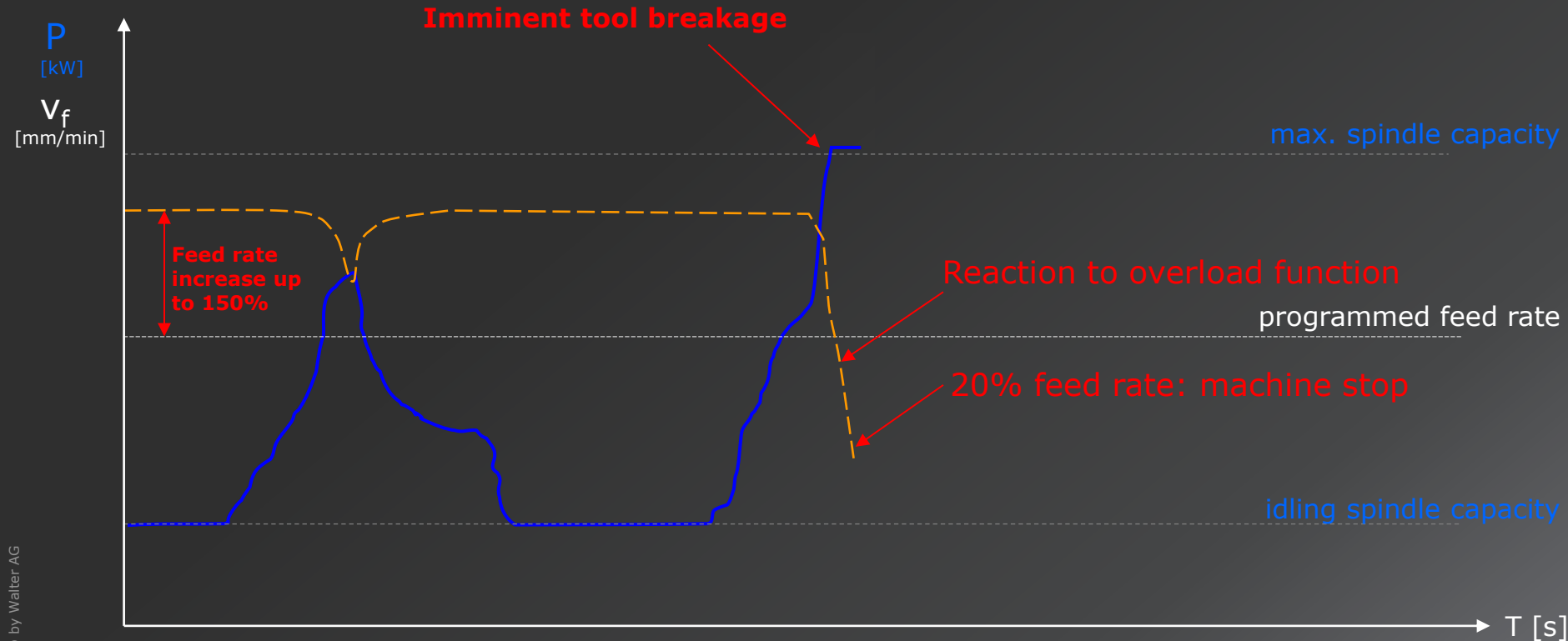
- **max. feed rate in material**
- **max. feed rate in air**
- **Reaction to overload situations**

# Feed rate increase through iCut



© by Walter AG

# Imminent tool breakage




# Reaction to overload

Defined machine reaction	Effects on production process
No reaction	No interruption of the cutting process. iCut still regulates the feed rates.
Message	A message is shown in alarm taskbar of the screen. No interruption of the cutting process. iCut still regulates the feed rates.
Stop after machining end	iCut stops the machine after the command ICUT_OFF. A message is shown in alarm taskbar of the screen.
Immediate stop	iCut stops the program immediately. A message is shown in alarm taskbar of the screen.
PLC-Operator	Machinebuilder or customer specific stop reaction. A message is shown in alarm taskbar of the screen. e.g. twin tool change, moving into a free position

# Suitable machining operations?

## Turning

Only for constant rpm!

 Longitudinal turning

 Face turning

## Drilling

- For greater boring diameters
- For large safety distance
- For cross-holes

## Milling



## Threading

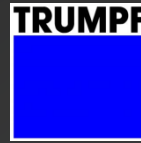


## On which controls does *iCut* run?

### Siemens

- 810D
- 840D powerline
- 840Di solutionline
- 840D solutionline
- With one or several spindles

# References







# Engineering Kompetenz

