



Wydział Mechaniczny Energetyki i Lotnictwa  
Politechnika Warszawska

# Projektowanie

mgr inż. Grzegorz Kamiński

25 lutego 2025

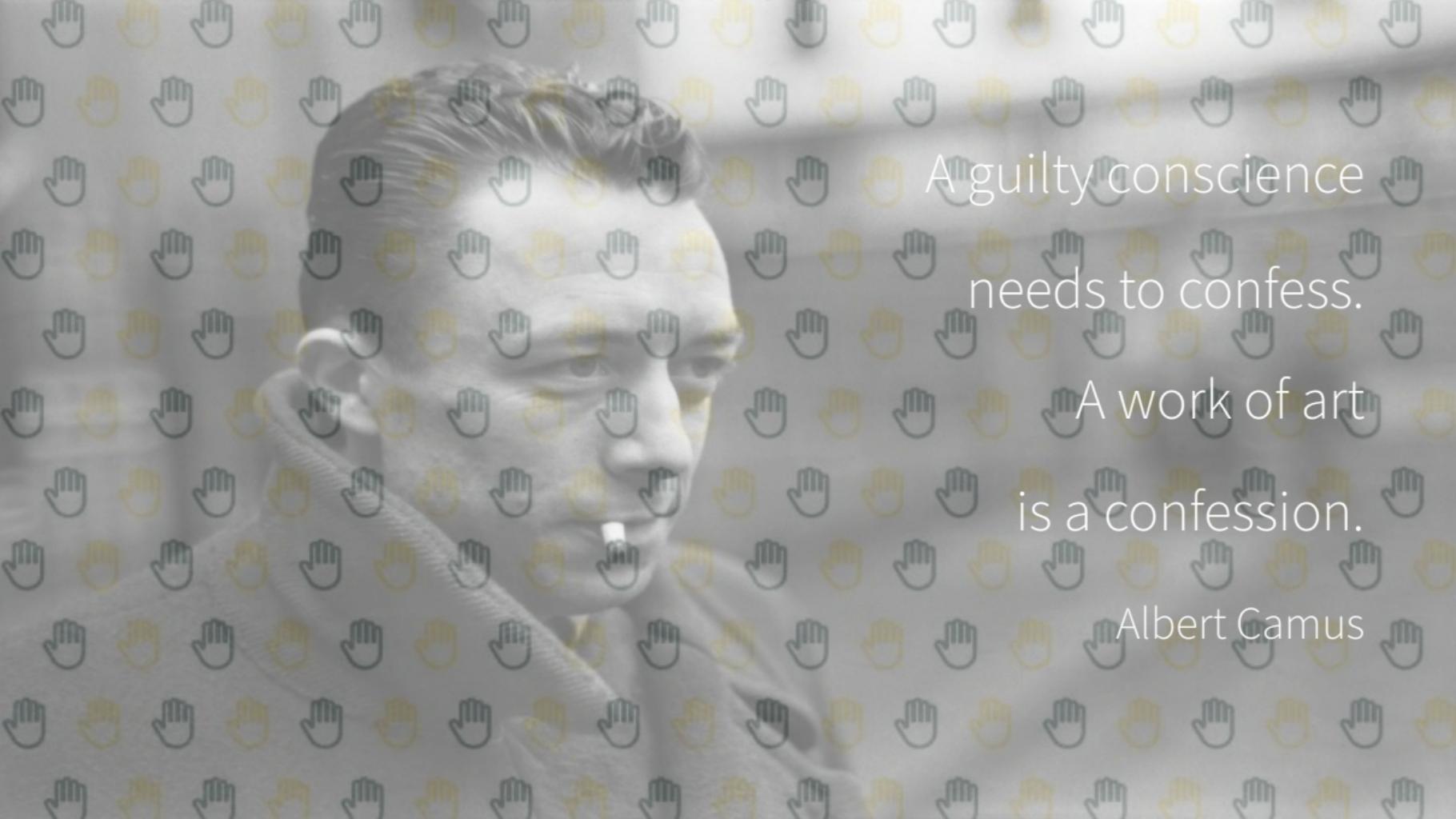


# 80%

of success

is just showing up.

Woody Allen

A black and white photograph of a man with light-colored hair, seen from the side and slightly from behind. He is wearing a light-colored, possibly white, shirt. His head is bowed, and he appears to be in deep thought or sadness. The background of the entire image is a repeating pattern of hand icons, rendered in a light gray color.

A guilty conscience

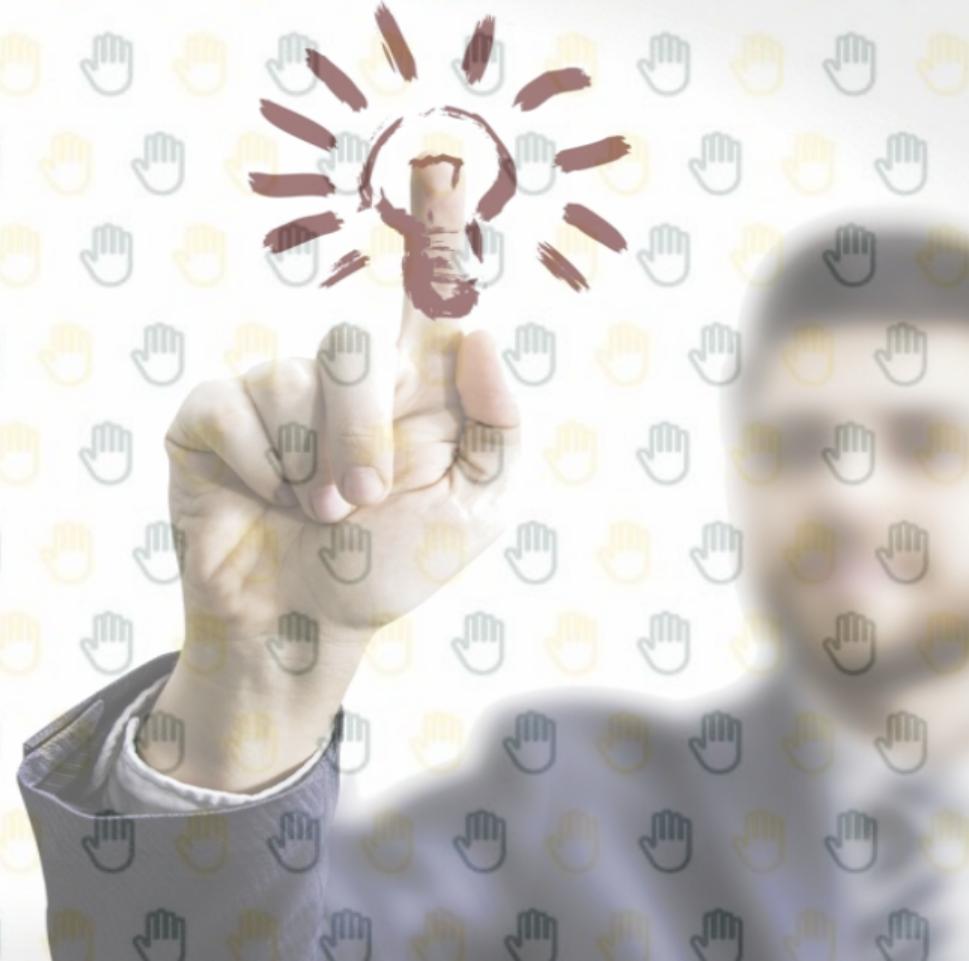
needs to confess.

A work of art

is a confession.

Albert Camus

WORK  
AT  
HOME



# WARNING

Deadlines are much closer

than they appear!

**DO NOT CROSS**



# Laptop or PC



VS



# Backup



# Computer Aided Design



PTC®  
Creo® Parametric



*DS* SOLIDWORKS

*DS* CATIA

AUTODESK®  
INVENTOR®

# Computer Aided Engineering



MATLAB

Wolfram Mathematica



# Final Raport



LATEX

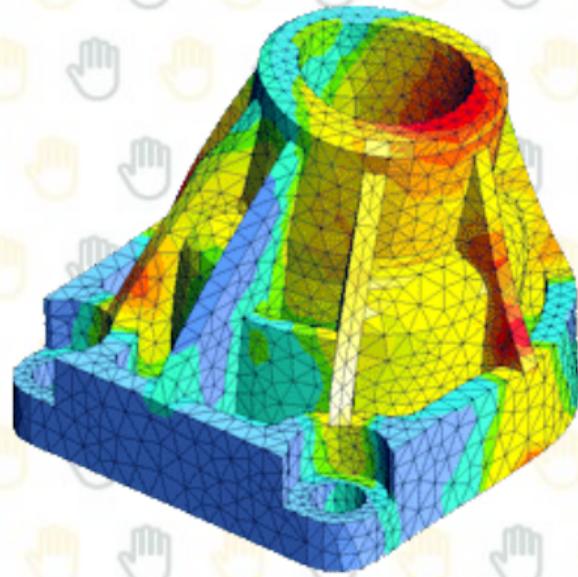
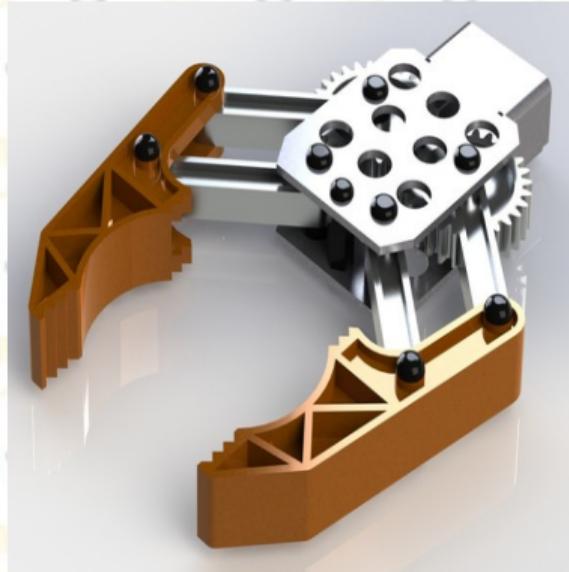
2

CAE

3

CAD

# Bells and Whistles



# Literature



# Types of elements



Details



Standard parts



Merchant parts

# Structure of name

AAA-BBB-CC

# Structure of name

AAA-BBB-CC

Original project name

# Structure of name

AAA-BBB-CC

Original project name

Position  
of an assembly  
in the project

# Structure of name

AAA-BBB-CC

Original project name

Position  
of an assembly  
in the project

Position of a detail  
in the assembly

# Structure of name

AAA-BBB-CC

Original project name

Position  
of an assembly  
in the project

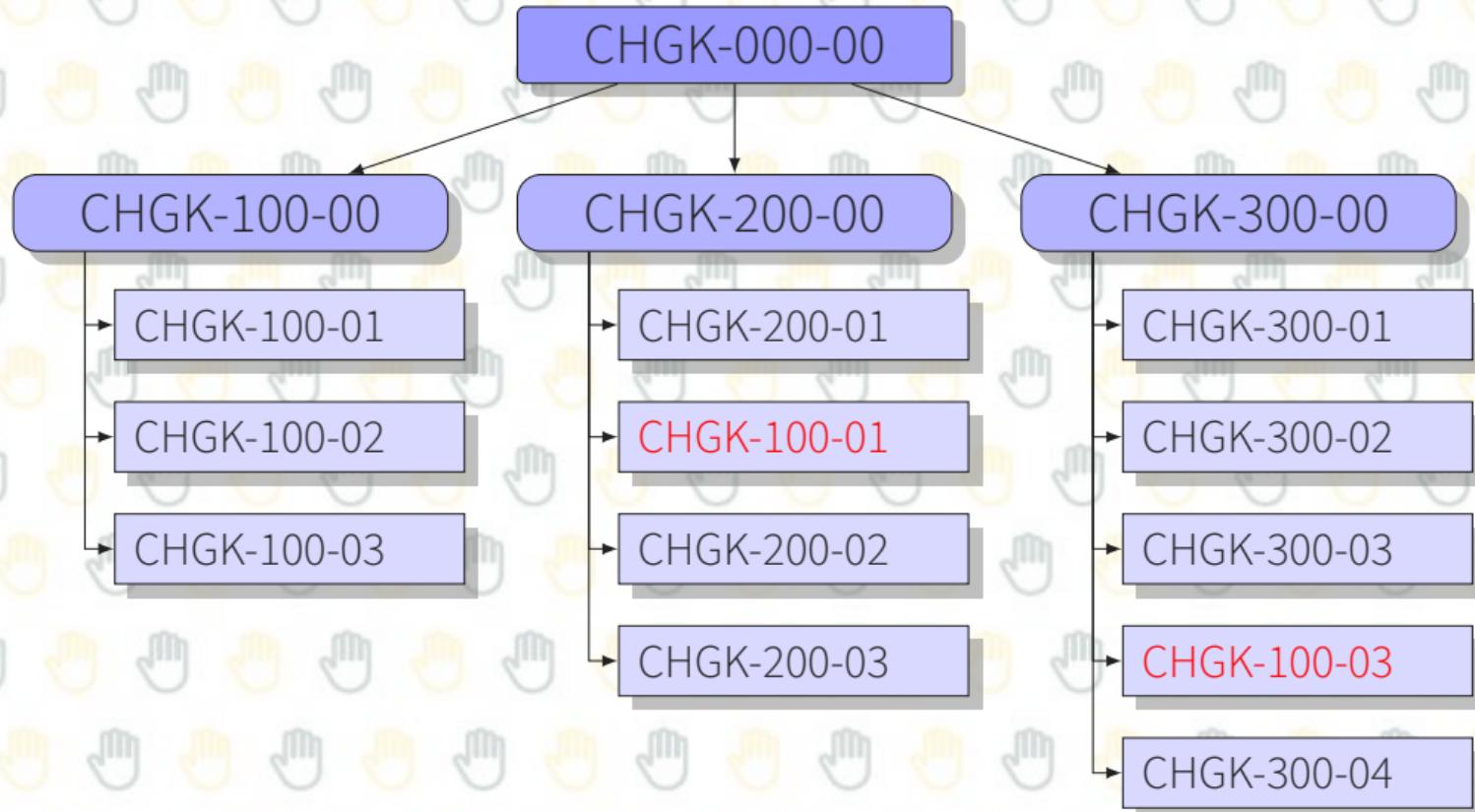
Position of a detail  
in the assembly

CHGK

100

01

# Structure of project



# Detail's naming

File name:

CHGK-100-01

Part name:

Chwytnik

Drawing number:

CHGK-100-01



# Merchant part's naming

File name:

DNC-32-50-PPV-A

Part name:

Siłownik pneumatyczny

Drawing number:

DNC-32-50-PPV-A (Festo)



# Standard part's naming

File name:

PM~~XX~~

Part name:

Podkładka metryczna M~~XX~~

Drawing number:

ISO 7089:2000



# Standard part's naming

File name:

PSM~~XX~~

Part name:

Podkładka sprężysta M~~XX~~

Drawing number:

DIN 127



# Standard part's naming

File name:

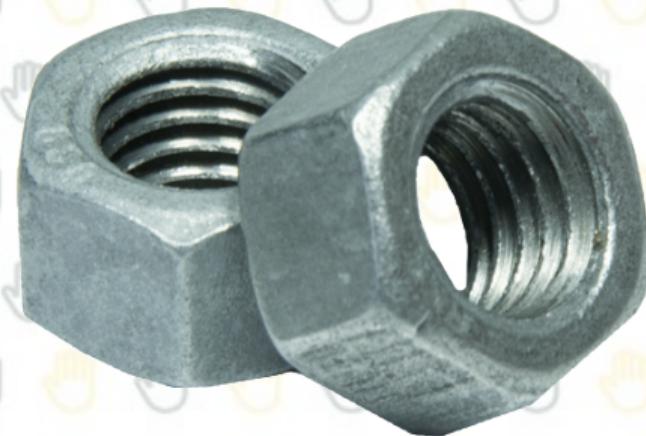
NM~~xx~~

Part name:

Nakrętka sześciokątna M~~xx~~

Drawing number:

ISO 4032:2023



# Standard part's naming

File name:

PZXX

Part name:

Pierścień osadczy sprężynujący

ZXX

Drawing number:

DIN 471



# Standard part's naming

File name:

PW~~xx~~

Part name:

Pierścień osadczy sprzątający

~~Wxx~~

Drawing number:

DIN 472



# Standard part's naming

File name:

SZLDxxxxx\_A|B

Part name:

Sworzeń xxxx typ A|B

Drawing number:

ISO 2341:1986



# Standard part's naming

File name:

ZDxxxxxx

Part name:

Zawleczka xxxxx

Drawing number:

ISO 1234:1997



# Standard part's naming

File name:

SIMXXXX

Part name:

Śruba imbusowa MXXXXX

Drawing number:

ISO 4762:2004



# Standard part's naming

File name:

SMxxxxx

Part name:

Śruba sześciokątna Mxxxxx

Drawing number:

ISO 4017:2022



# Standard part's naming

File name:

MB~~xx~~

Part name:

Podkładka zębata MB~~xx~~

Drawing number:

ISO 2982-2:2013



# Standard part's naming

File name:

KM**XX**

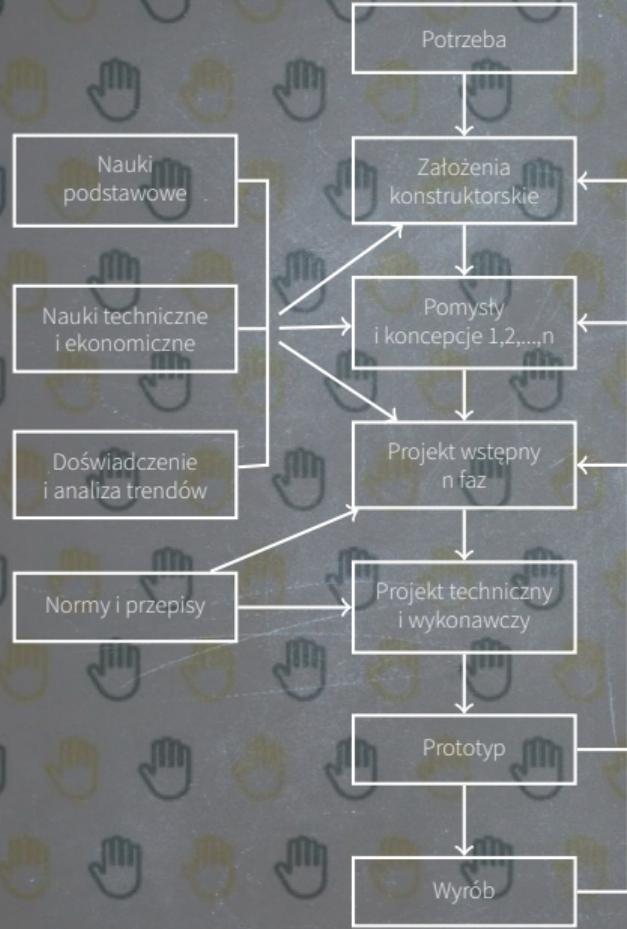
Part name:

Nakrętka łożyskowa KM**XX**

Drawing number:

ISO 2982-2:2013





# Tasks

- \* Kinematic drawing of mechanism
- \* Mobility of mechanism



Dziękuję  
za uwagę

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