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Amsterdam University of Applied Sciences

ACADEMIA AND SMS EDUCATION

Preparing the next generation of safety professionals

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CREATING TOMORROW

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AMSTERDAM UNIVERSITY OF APPLIED SCIENCES

Some facts:

- 43,000 students
- 80 bachelor and master programmes
- 7 schools

Transitioning from education to *research* and education

Aviation Academy is part of the School of Technology

- 500 new students each year
- 1,300 students in total

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2014: WINNER OF THE DUTCH EXCELLENCE IN AVIATION EDUCATION AWARD

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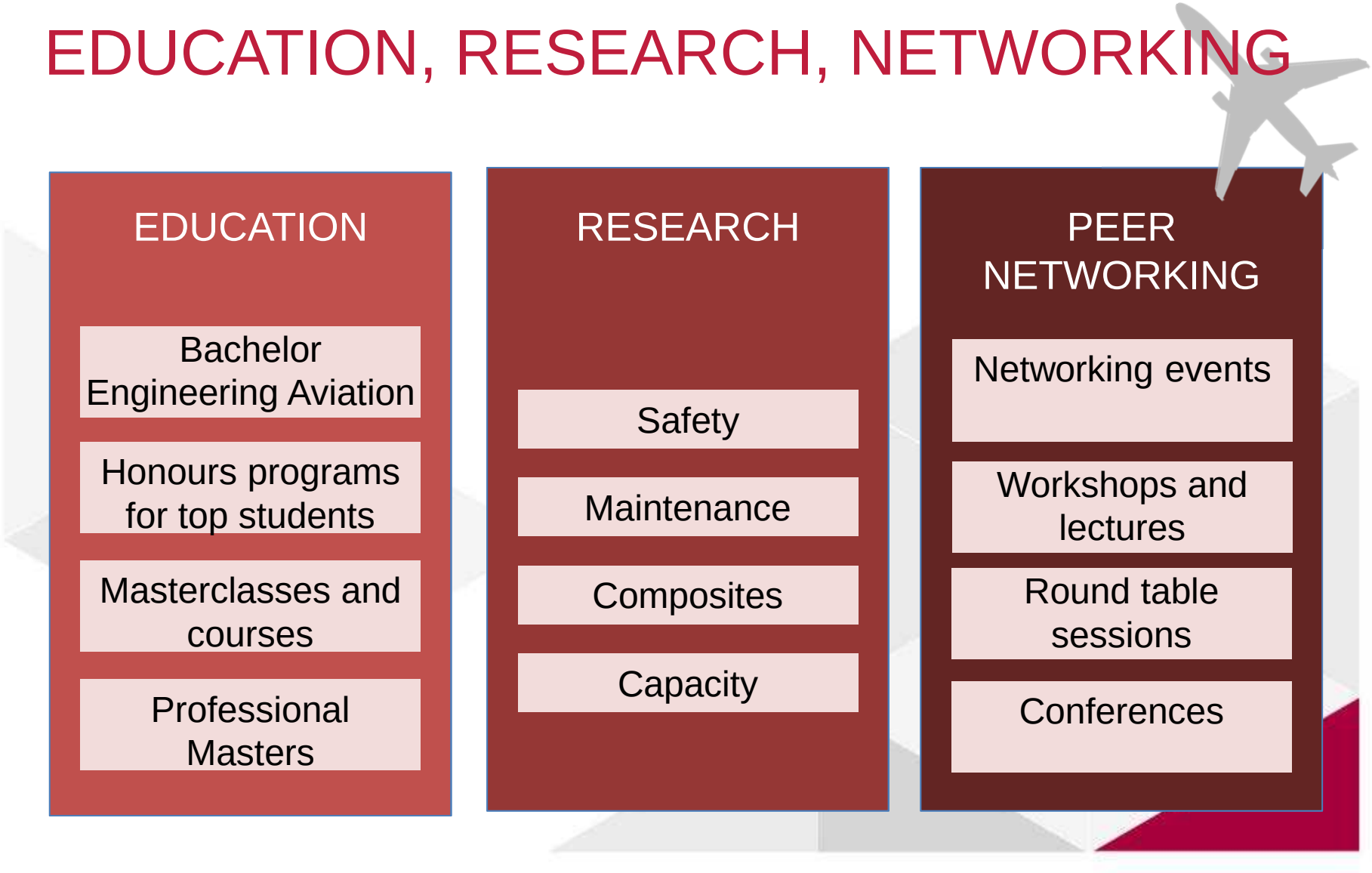
EDUCATION, RESEARCH, NETWORKING



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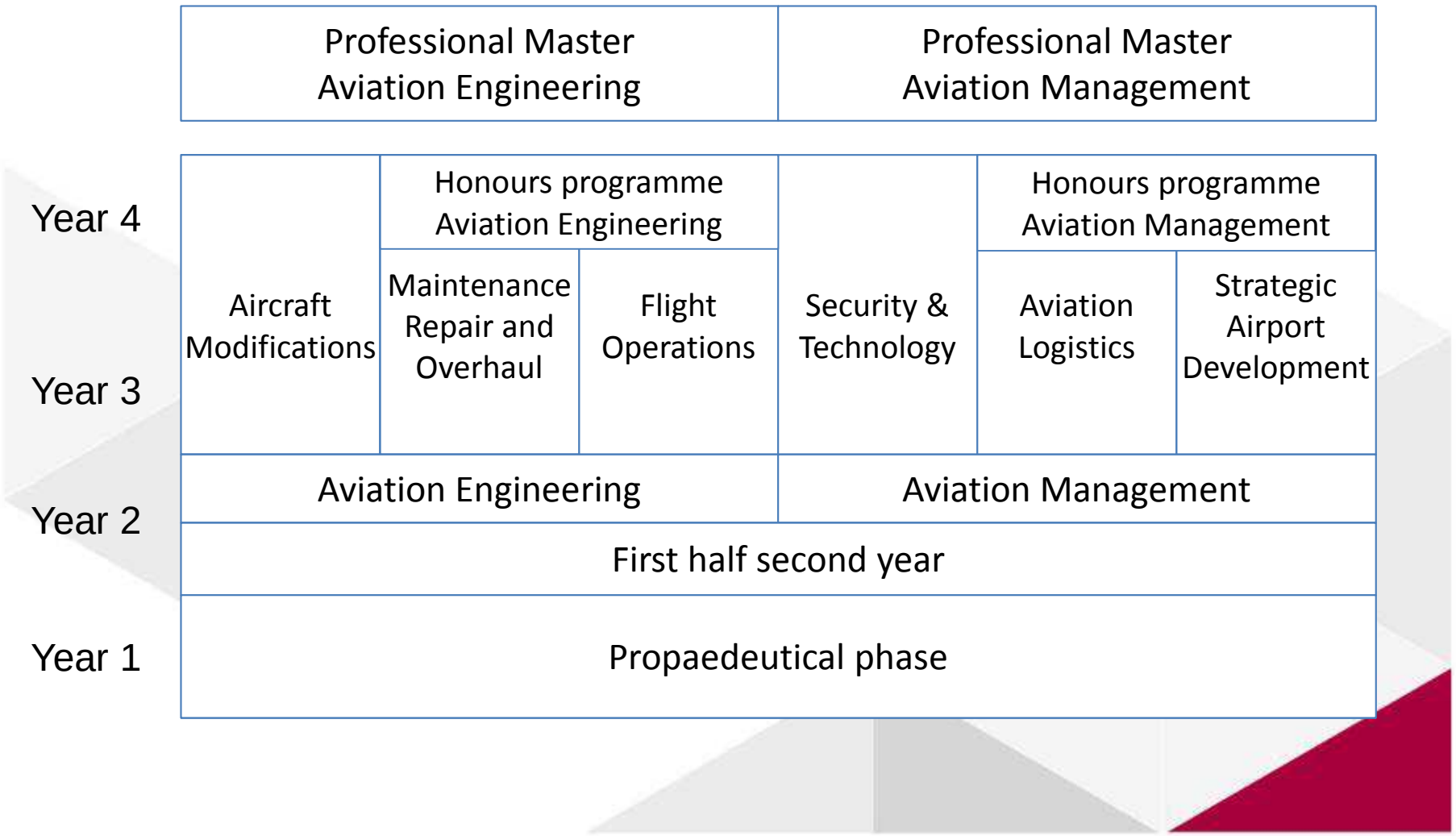
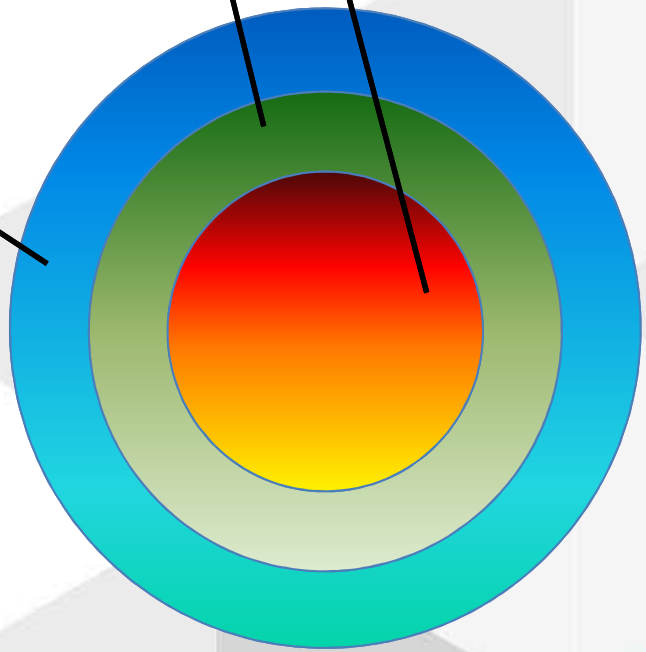
CURRICULUM



LECTURERS

- Core team of (senior) researchers/lecturers
- Part timers from industry or government
- Guest lecturers



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COLLABORATION WITH OTHER UNIVERSITIES

Why:

- To answer the need of the European aviation industry

How:

- Establishing association of applied aviation universities
- Sharing best practice
- Joint development of study programme
- Exchange of students and staff

vives

Coventry University

ISTANBUL TECHNICAL UNIVERSITY 1773

ENAC

ŽILINSKÁ UNIVERZITA V ŽILINE
UNIVERSITAS SOLNENSIS
VYSOKÁ ŠKOLA DOPRAVNÁ

FH | JOANNEUM
University of Applied Sciences

Cranfield UNIVERSITY

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MASTERCLASSES AND WORKSHOPS

Resilience

Eric Hollnagel

Human factors and safety

Sidney Dekker

Engineering a safer world

Nancy Leveson

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MEASURING THE QUALITY OF THE STUDY PROGRAM

- Speed at which graduates find a job
- Accreditation (every 4 year)
- Advisory Board (includes representatives from industry)

  Is the curriculum aligned with industry needs?

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SAFETY MANAGEMENT SYSTEMS

www.international.hva.nl

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REQUIREMENTS FROM INDUSTRY

Our graduates must provide

- practical knowledge and experience,
- in line with ICAO and EASA views on safety management,
- to large and small organisations,
- that helps in improving their business.

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INTEGRATION WITH THE OVERALL CURRICULUM

1st year

Introduction to safety, human factors and human performance

2nd year

SMS and soft skills

Project (safety is always a dedicated subject)

3rd year

Internship (safety is always included as a dedicated subject)

4th year

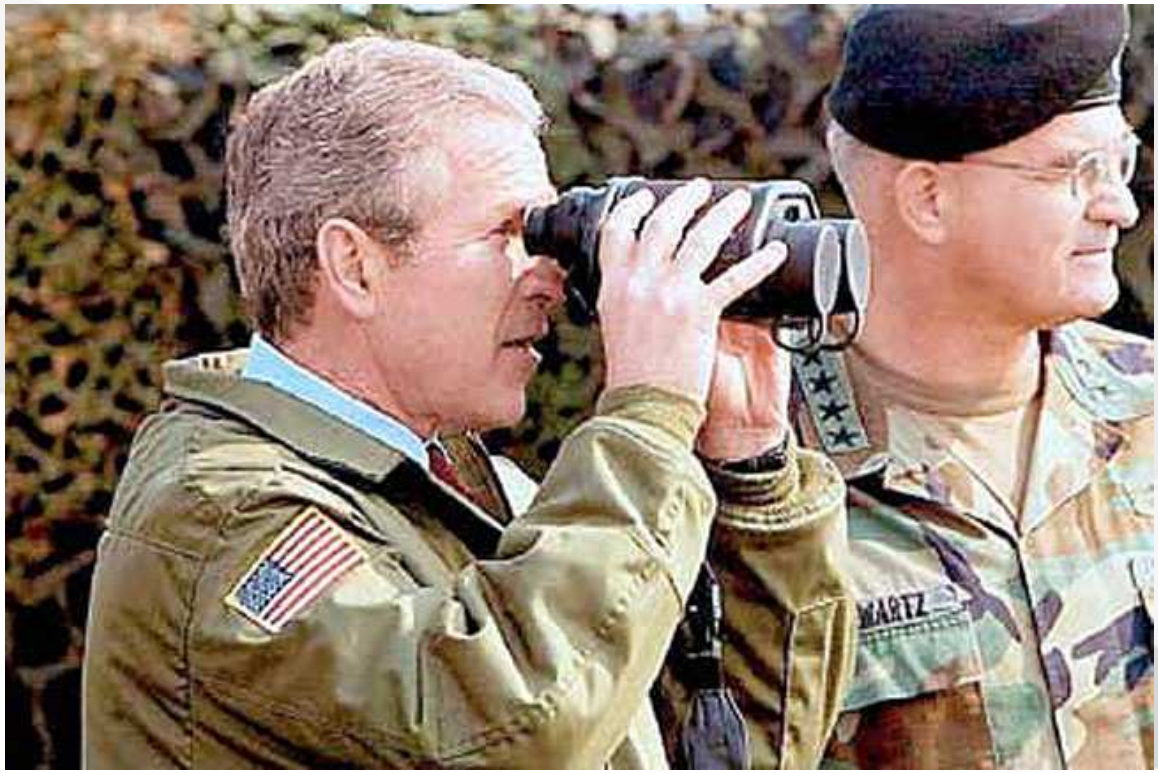
Operational safety, accident investigation, professionalism in the context of aviation safety.

ENGAGING STUDENTS

- Inspired lecturers with practical experience (‘war stories’)
- Project in 2nd year: safety is part of it
  e.g. ‘design an airport’
- Internship report (3rd year) must have a chapter on safety
  How is safety ‘done’ in the company, what is the student’s experience ?

WHY RESEARCH?

We educate tomorrow’s safety managers, therefore we have to look ahead.



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RESEARCH PROJECTS - EXAMPLES

- Application of LOSA at a provider of ground services (2010).
- Application of a control model for ramp safety (2013).
- Safety Performance Indicators for SMEs (2015-2019).

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APPLICATION OF RAMP LOSA

- LOSA = Line Operations Safety Audit

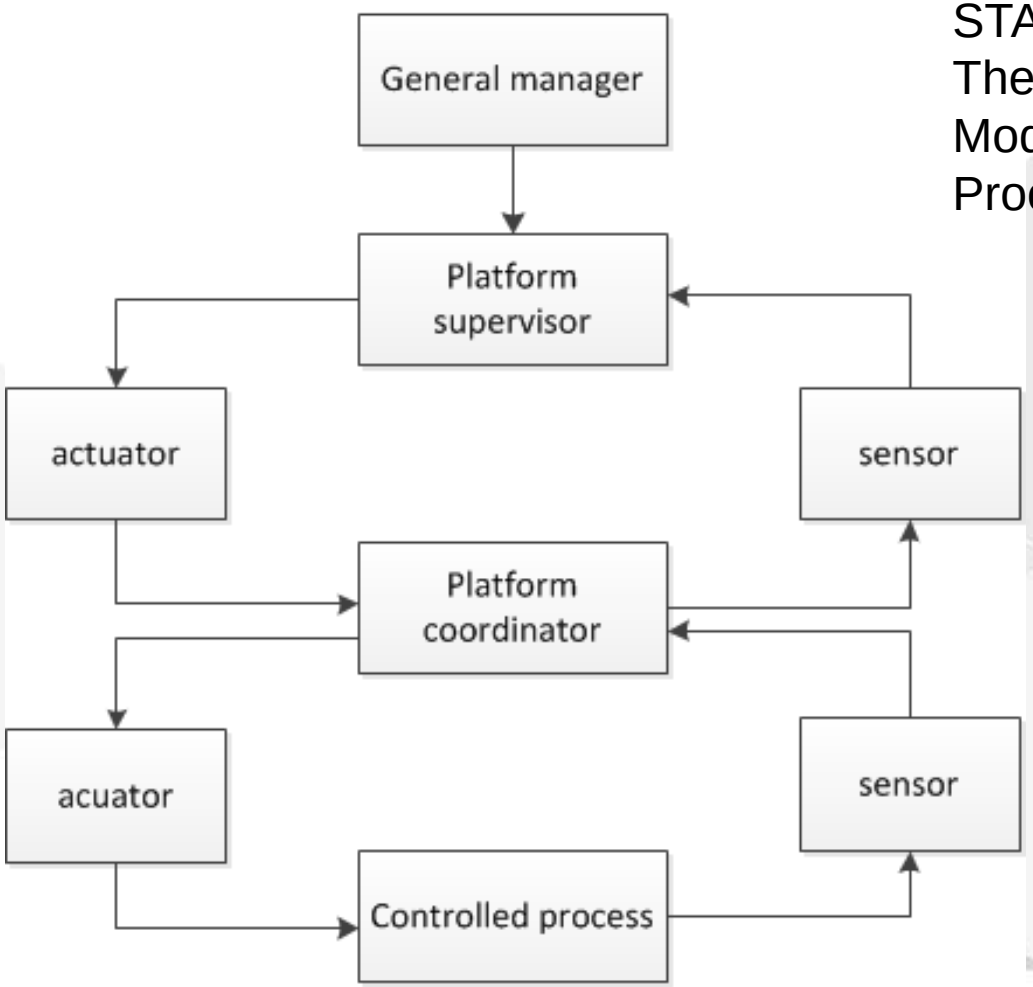
- Activities:
  - Adapted existing RAMP-LOSA form (terminology and size)
  - Performed LOSA observations
  - Analysed results

- Some results
  - 70% exceeded speed limits
  - 37% did not wear haring protection
  - 48% employees walking on running conveyer belt

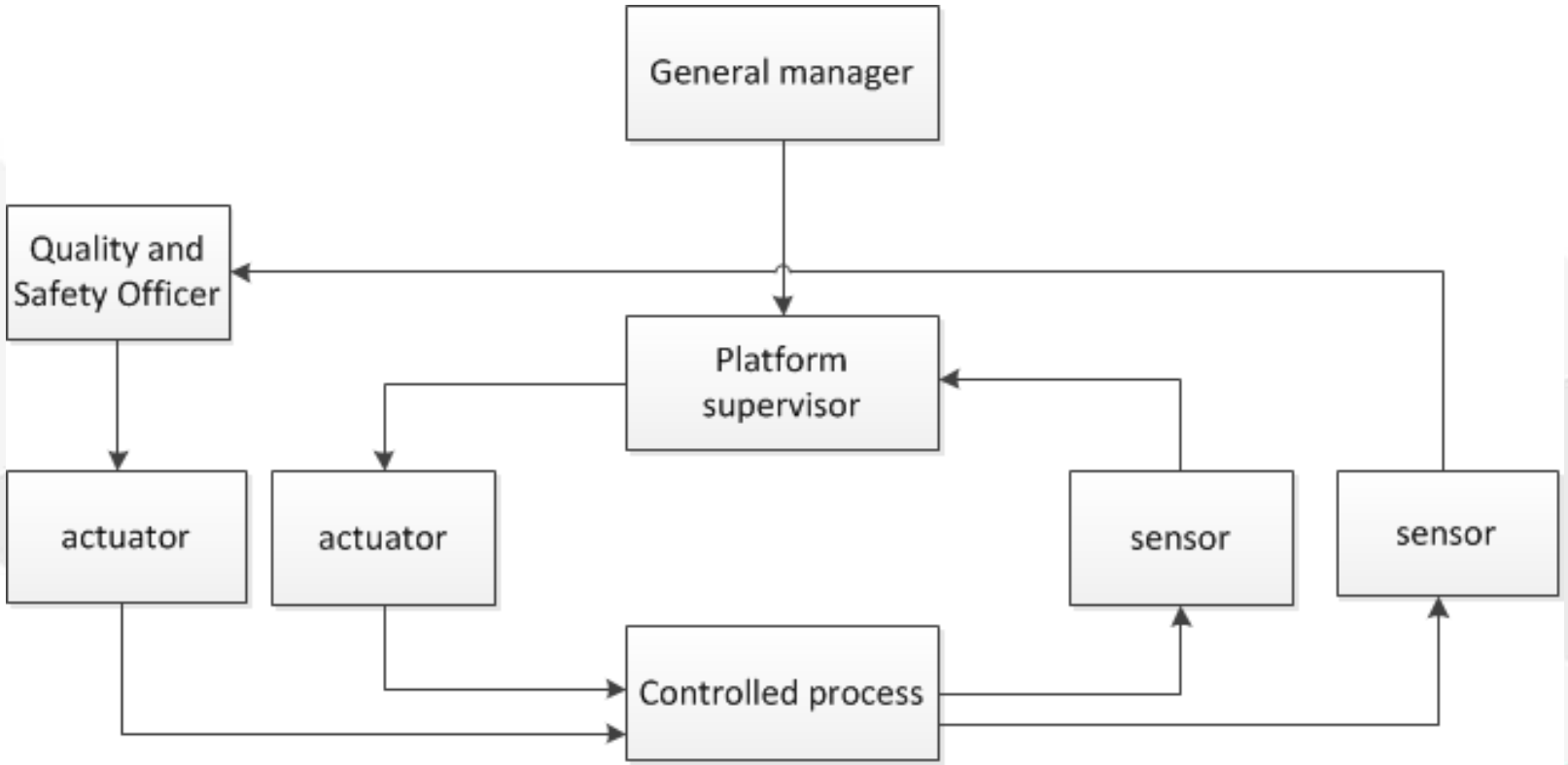
- Provided recommendations for improvement

APPLICATION OF STAMP TO PLATFORM SAFETY – OLD PROCESS

STAMP = System-Theoretic Accident Modeling and Processes

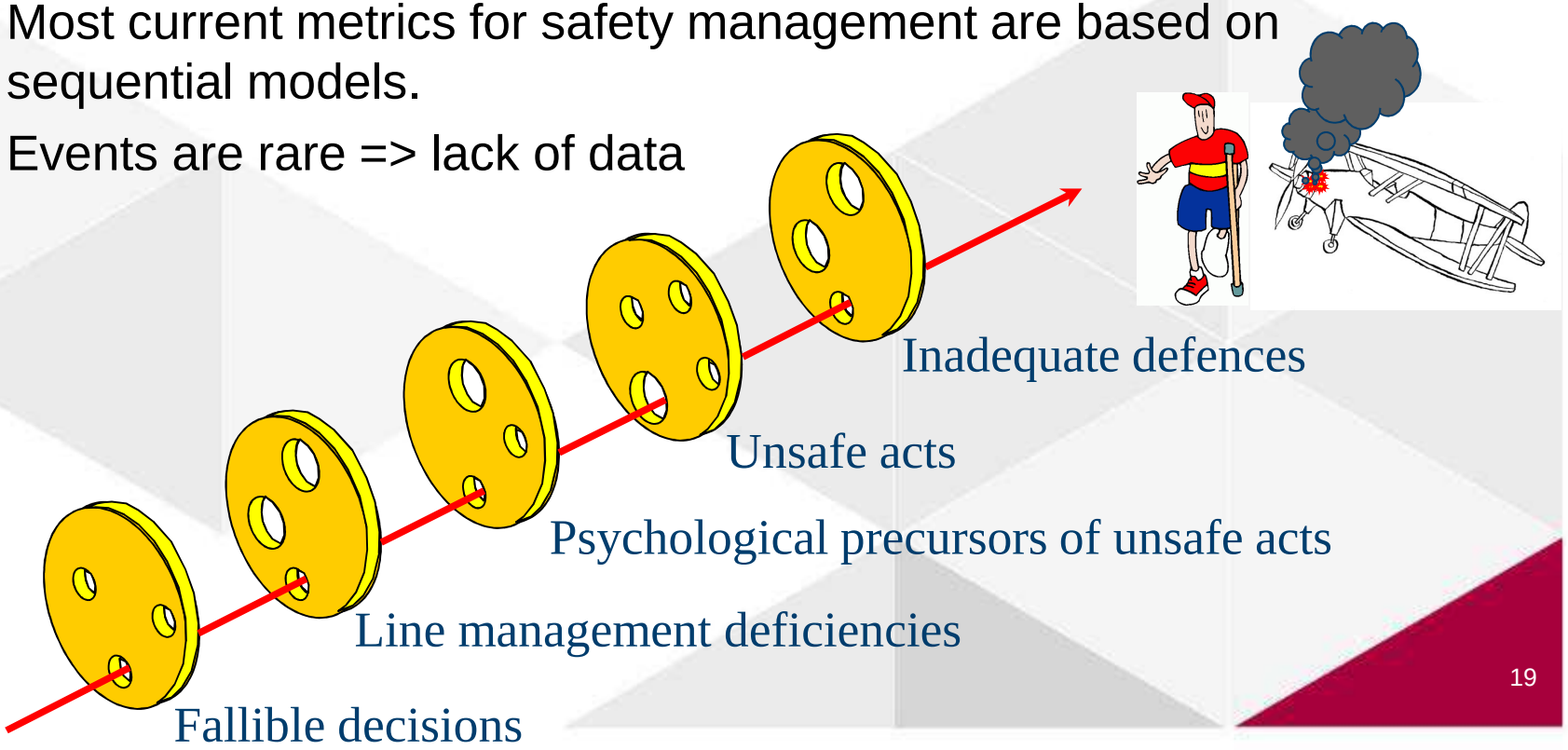


MODIFIED PROCESS



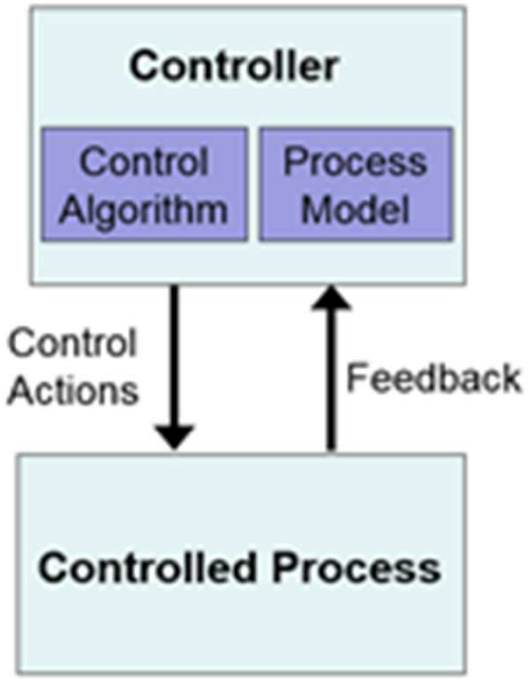
SPIs for SMEs

- SPIs are always based on a certain understanding (a model) of the sociotechnical system (Reiman and Pietikäinen, 2011).
- Most current metrics for safety management are based on sequential models.
- Events are rare => lack of data



SPIs FOR SMEs (CONTINUED)

- Safety metrics based on control models?
- Safety control is a continues process => abundance of data.



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SUMMARY

How do we prepare the next generation of aviation safety professionals:

- Listening to needs from industry;
- Inspired lecturers with academic qualifications and professional experience;
- Collaboration with European Universities to harmonise what we teach;
- Students spend part of their study within industry to obtain practical experience in addition to theoretical information;
- Research to prepare for tomorrow's questions.

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Techniek

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