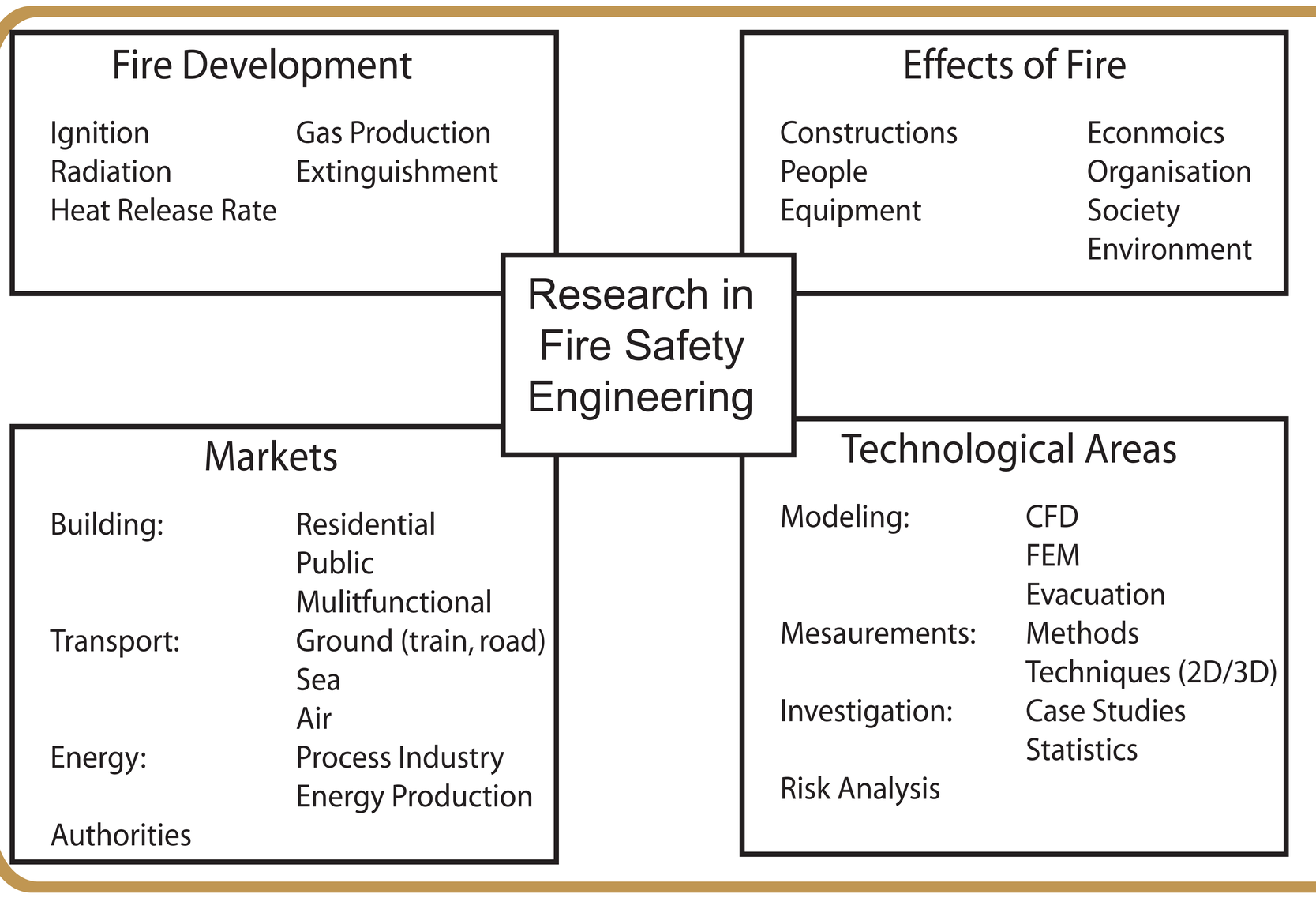
LUND UNIVERSITY

Department of Fire Safety Engineering and Systems Safety

A Short Presentation of the Fire Safety Research

Research in the fire safety area has been performed at Lund University, Sweden, for almost 50 years. Today, the Department of Fire Safety Engineering and Systems Safety is active in the areas of Fire Safety Engineering and Risk/Crisis Management. The Fire Safety Engineering group hence has long experience in a range of different areas.

The research can be divided in four areas depending on the view angle from which the research is initiated. In the figure on the next page the research within Fire Safety Engineering is schematically presented depending on four different view angles.



FIRE DEVELOPMENT

The first area is related to fire development and comprises ignition, heat release rate, radiation, gas production and extinguishment.

MARKETS

A second approach to categorise the research is to divide it in the different market areas or stakeholders. The research is then divided in areas such as buildings, transport, industrial applications and research for authorities.

EFFECTS OF FIRE

The third categorisation is depending on how the effects of the fire are studied. Areas which appear are constructions, people, equipment, environment, economics, organisations and society.

TECHNOLOGICAL AREAS

Finally one can apply an approach towards technological areas such as modelling, measuring techniques, fire investigations and risk analysis.

MORE INFORMATION

For more information please visit:

www.brand.lth.se/research

EXAMPLES OF ONGOING RESEARCH PROJECTS

SAFE MULITBYGG

A national project sponsored by the Swedish Civil Contingencies Agency (MSB). The project focuses on accident prevention and mitigation in multifunctional buildings. Multifunctional buildings are characterized by having several important societal functions that can be affected by an accident or an antagonistic act.

KESØ project

KESØ is a research project about evacuation safety in the Öresund region. The purpose of the project is to determine which evacuation strategies that are most efficient in complex constructions, i.e., tunnels and tall buildings.

PRISME – Fire safety in NPP

International project sponsored by OECD in which Sweden participates.
Full scale fire tests for nuclear power plant scenarios and validation of software for smoke and heat transport. Much focus is on the influence of ventilation on the fire development and the influence of the fire on the ventilation.

METRO – fire safety in underground rail transport systems

Our part in this large national project is to perform the management and the research with respect to evacuation (see www.metroproject.se).

Arson fires in schools

Development of technical protective measures to prevent and to reduce the consequences of arson fires. The project focuses on active and passive systems and will investigate cost/benefit of the different solutions.

Why small fires become large fires?

Investigation and development of techniques to increase the knowledge about why small fires become large in specific scenarios. At the moment, school fires, roof attic fires, and fires in cable galleries and/or control rooms in nuclear power plants are studied.