This poster presents the layout involved in modelling flood insurance penetration and complexities involved in it. Nature of flood peril, in particular in adverse selection, has led to a complex system of different insurance covers and policies across Europe owing to its public and private distinctions based on premiums provided as ex ante or ex post, socio-economic characterization and various compensation schemes.

Each step of the development requires careful evaluation and analysis of information require to assigning economic risk and spatial distribution of insured portfolios to quantify economic to insured portfolio. From insurance perspective such a model is quite beneficial in making informed decision and portfolio allocation.

**Initial Components**
- Country specific research
  - Geographical and socio-economic study
  - Historical context
  - Type of flood and mitigation measures
  - Land Cover and Urbanisation
- Insurance Information
  - Policy Conditions and Government Policies
  - Surplus Insured
  - Mix of policies
- Data search and information gathering from public and private sources as well as references in literature
- Flood information and study
  - Hazard Zones and Return period Maps
  - Flood maps and inundation patterns
  - DTM and inundation to sublocation
- Postcodes location

**Analysis and Development**

**Validation**

**Framework**
- Different development methodologies using a mix of:
  - Return period and Insured Zones study
  - Existing policy condition and Government Policies
  - In Switzerland there is mandatory national covering including flood
  - DTM and flood depth study
  - Land use pattern and inventory region classification (CEC/Urban-Cha/Urban/Forest)
  - Client data and available information
  - In Austria, there is limited insurance in high flood risk areas.
- In addition to the other insurance assumptions including limits, deductions, BI coverage are also formulated depending upon your information available for each specific country.

**Benefits**
- Helps to gain a deeper understanding of flood and risk assessment
- Helps to get more comprehensive risk maps for natural hazards and their impacts
- Helps to fit more comprehensive risk mitigation solutions and reduction of consequences
- Helps to achieve better natural risk management through
  - Client uncertainty of adverse consequences of natural phenomena
  - Quantification of potential spatial damage, business interruption, and recovery times
  - Definition of exposure concentration.

**Research**
- Different development methodologies using a mix of:
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