First idea and some bullet points:

Data is available for a multi-family house with different applications with VIP in comparison to conventional insulating materials. This was implemented in a Model for calculation, based on energy demand calculations for the Building and combined with economic calculations on the materials and products in use.

- Master Thesis Xingyun Wang (model in R programming language) needs to be adapted to other buildings, actual prices, interest rates, new locations etc.
- Additional work for INNOVIP done on the comparison of a (small) single family house with VIP in comparison to conventional insulation at different locations (Portugal, England, Germany…) – results available, but not the calculation model
- VIPA could ask their Member companies how they prove their ROIs for constructions with VIPs (if tools / procedures / boundary conditions) are available, they can be used
- Perform an additional literature survey and check for available tools on the market (none for VIPs as far as I know, but maybe adaptable)
- Cases to consider:
    - Single, detached houses, multi family houses etc.
    - New buildings (maximizing the sellable square meters when building dimensions are limited (e.g. when building into a gap in between existing buildings)
        - External Wall insulation with VIPs
        - Internal wall insulation (as far as I know only a common application in France)
        - Room height optimization (revenues are higher for higher rooms → might be applicable for top floor only)
    - Renovation case for wall with internal insulation (minimization of the loss of floor area)
    - Renovation case as problem solver (important market for VIPs but moneywise hard to assess)
- Idea of a web-tool as a follow up of a detailed study?
    - Personalize tool for specific products of VIPA members?
    - Select location of building (dropdown list) → energy price, local prizes for living space and heating degree days etc.
    - Assess the building with simple key data:
        - Floor area
        - No of stories
        - Length of the VIP insulated walls
        - Room height
        - Existing building elements and estimated U-value (could be a selection)
        - Age of existing building (could be a selection – e.g. to automatically select the building elements if there is no idea for their performance)
        - Total U-value in case of new-built walls (or selection of materials and estimated thicknesses)
        - Thickness of walls and other building elements
        - Type of energy for domestic heating and age of components (efficiency and demand data)
    - VIP with simple key data:
        - Thickness
        - Lambda

        - Cost per m² (individual cost for VIPA members possible, but not recommended)
    - Other materials for comparison (EPS/MiWo/Wood fiber?)
    - Cost of other materials for comparison
    - Price of floor area and its development over time (big differences!)
    - Energy price and development over time (big differences over European Countries..)
    - Interest Rates for the economical calculations and its development over time
    - Life expectancy of the products in use and periods for re-investment (simple approach possible)
    - Agreement on the methodology to be used (recommendation: EU directive)
    - Other boundary conditions for the economic analysis
- Assessment should deliver how and where there is a benefit for the investor when using VIPs in buildings
    - According to the use case (new built and renovation)
    - Savings on building material (e.g. weight, dimensions → structural elements could be smaller when using VIPs?)
    - Minimizing the loss of area in renovations when using internal insulation
    - Space savings in public space when using a thin solution (sidewalk) – but hart to assess moneywise…

FIW Proposal:

To start with a brief assessment of available work followed by a study for specific buildings and specific locations and specific applications (proposal by FIW, but agreement among the VIPA members).

Then compare the results and discuss the outcome. If the results are acceptable for VIPA, the next step could be the development of the calculation tool that could be used on the website.

1) FIW could assess the available material and run a first calculation (e.g. 3 persondays of work = 3k€) and write a brief report with some bullet points and examples for visualization.
2) Then discussion of the outcome and decision on the study (e.g. 2 Personmonths work = 20k€).
3) If the study shows outstanding positive results: decision on development of the software tool for VIPA (cost depending on the content to be decided – also external programming possible).