

# [GSHA] Evaluating & choosing methods

Drafting a thinking process and relevant details.

## Start with a Environment

- Simple start: Traditional 3-display setup Cluster/IVI/RSE
- Consider also "modern" concept ideas – full display (but implemented as segments) across dashboard, head-up across windshield, etc..

## Start with a Use case

- A particular function (Media, video, navigation, "HMI interaction" (menus etc) may drive different needs.

## Analyze environments

- What hardware capabilities exist
- interconnect network (inside SoC / between hardware chips)
- SoC internal bandwidth, memory bandwidth
- Network connection between ECUs
- Hypervisors --> performance and bandwidth
- SoC feature - display layers, virtualization support?
- where can I render?
- where can I process?
- where is the source of content?
- where should it be displayed?
- network bandwidth
- screen & graphics resolution needs

## Other constraints

- Operating system capabilities? Available software.
- Organizational constraints? (Number of speaking partners e.g. ECU suppliers, technology providers)
- Pre-selected limitations on supplier choice, price, platform, etc.

## Possibilities

- 5 categories
- typical requirements (or consequences) for choosing each
  - in terms of bandwidth... processing...

## Consequences

- Development risk? (cost, delays...)

## Analysis and choice methods

- Provide methods for getting from all the complexities above to an actual choice.
- Step 1. List XXX Step 2.
- Comparison tables
- Other analysis methods?

## Risk evaluation

- Risk analysis? FMEA?
- More risk management: How large is the safety margin against constraints (how near bandwidth limit, etc.?)

## Final questions

- Does the chosen solution solve the problem?
- Does it meet all constraints?
- What is the previously evaluated risk score? (or scores, if several types of risks were evaluated)