

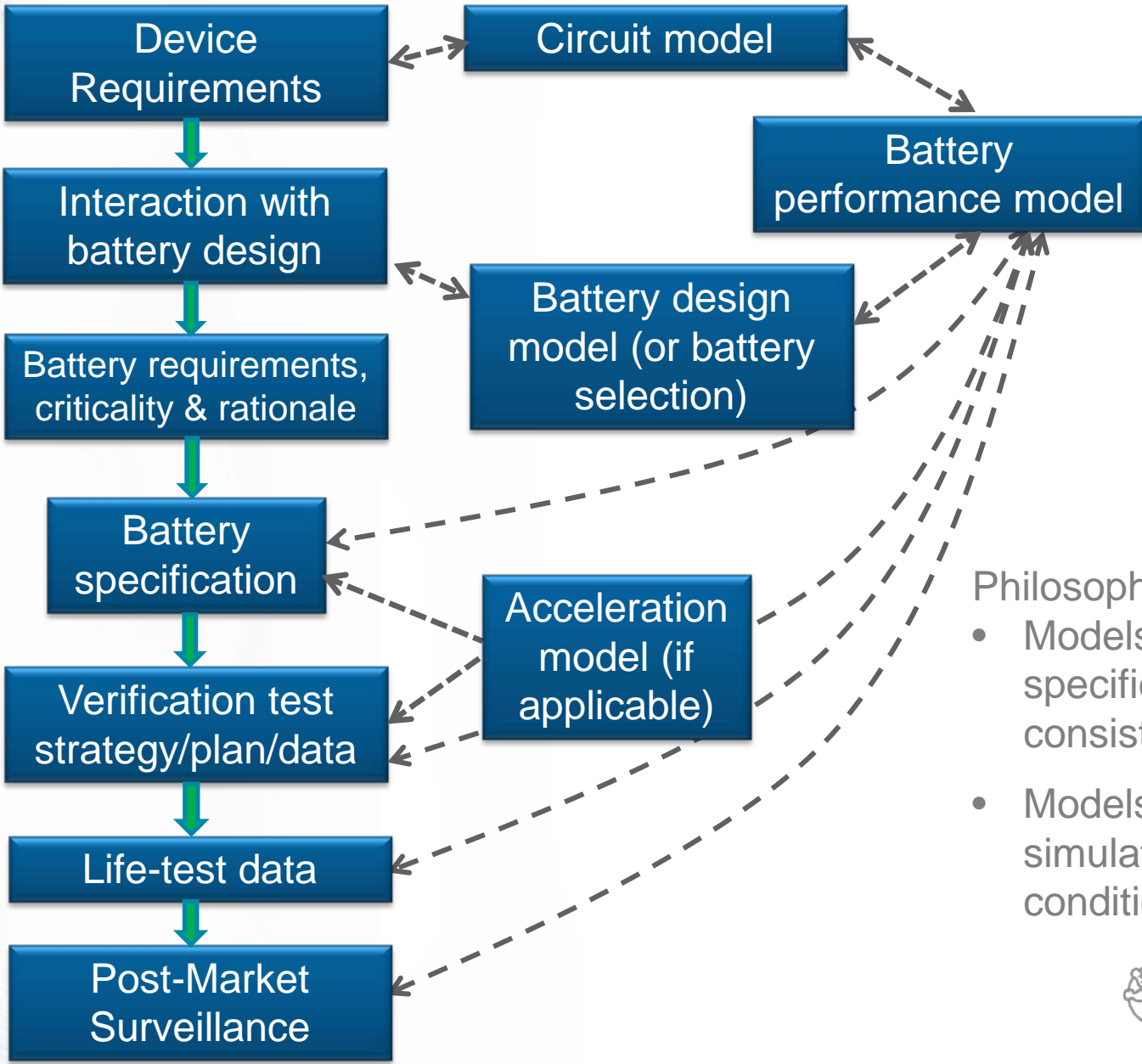


# Requirements: Device-to-Battery and the Related Role of Battery Modeling

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# Potential Battery Design/Selection & Verification Process



- Philosophy:
- Models, data, and specification are self-consistent
  - Models useful for simulation of use conditions (and labeling)

# Reasonable Expectations (for discussion)

## EXAMPLES:

- Rationale for battery design/selection
  - Translation of device requirements to battery requirements
- Test method strategy & rationale
  - Relationship to requirement criticality
- Methodology and rationale for predictions at use conditions
  - Performance & acceleration models
- Verification & validation of models used in lieu of verification testing

# Concern Regarding Prescriptive Expectations (for discussion)

## EXAMPLES:

- Requirements flow-down methodology
- Detailed content of battery specification
- Verification testing strategy / protocol
- Accelerated test methodologies
- Model development methodologies
- Model verification & validation strategy

# Summary: Device-to-Battery Requirements and Battery Models

- Battery models are often an important component of the design/selection and verification process.
- General guidelines related to expectations of certain “bodies of knowledge” may be useful.
- Prescriptive requirements should be avoided wherever possible due to the wide range of device applications, battery chemistries, and test and modeling methodologies.



# Is it feasible to create useful, non-prescriptive guidelines for the battery selection/design and verification process?

- A. Yes.
- B. Likely feasible, but challenging.
- C. Uncertain.
- D. No.

