# Digitalization for the generation of DCC

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SIM-MWG-14

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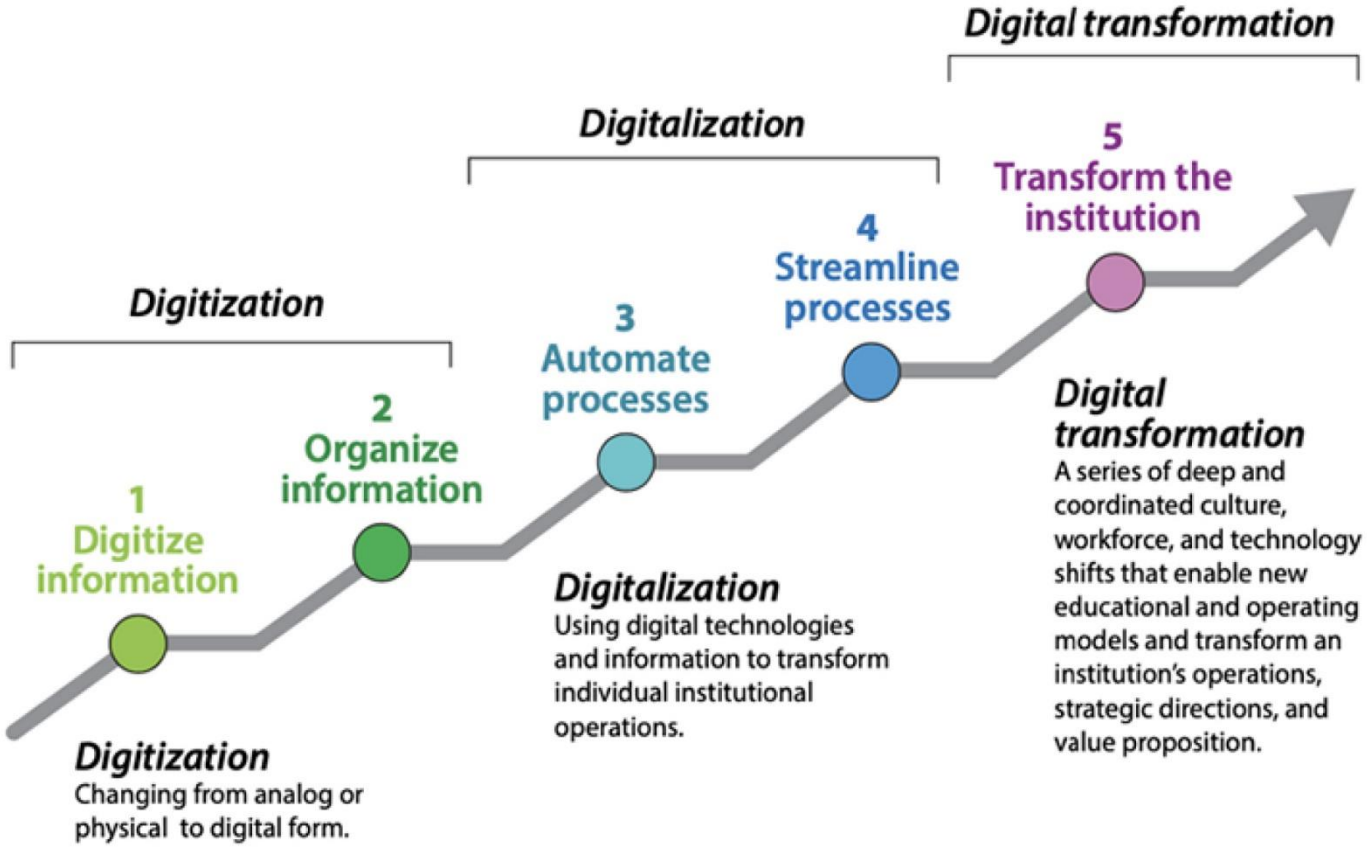
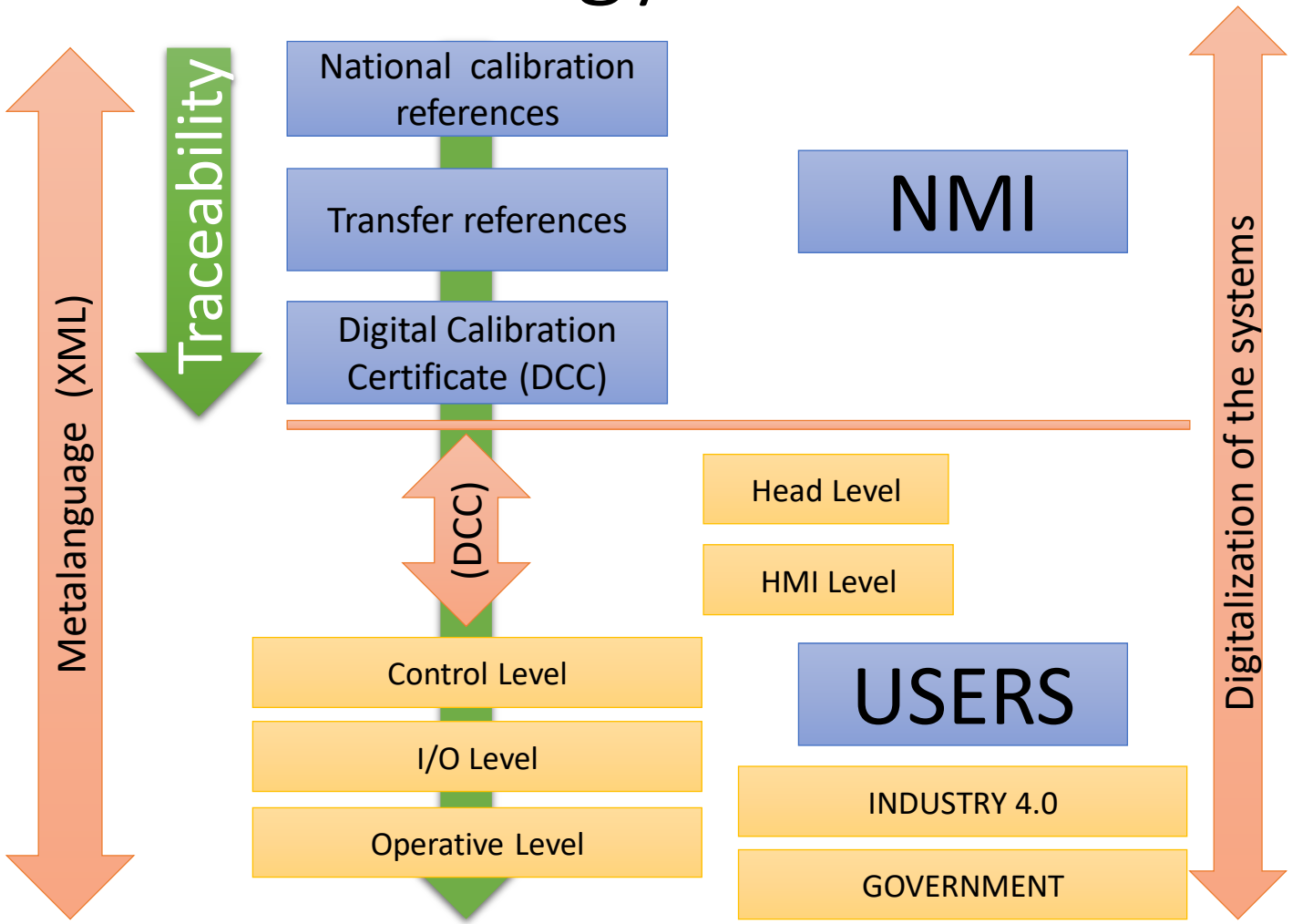
# UNDERSTANDING THE PROCESS TO DT



# Digital transformation in metrology

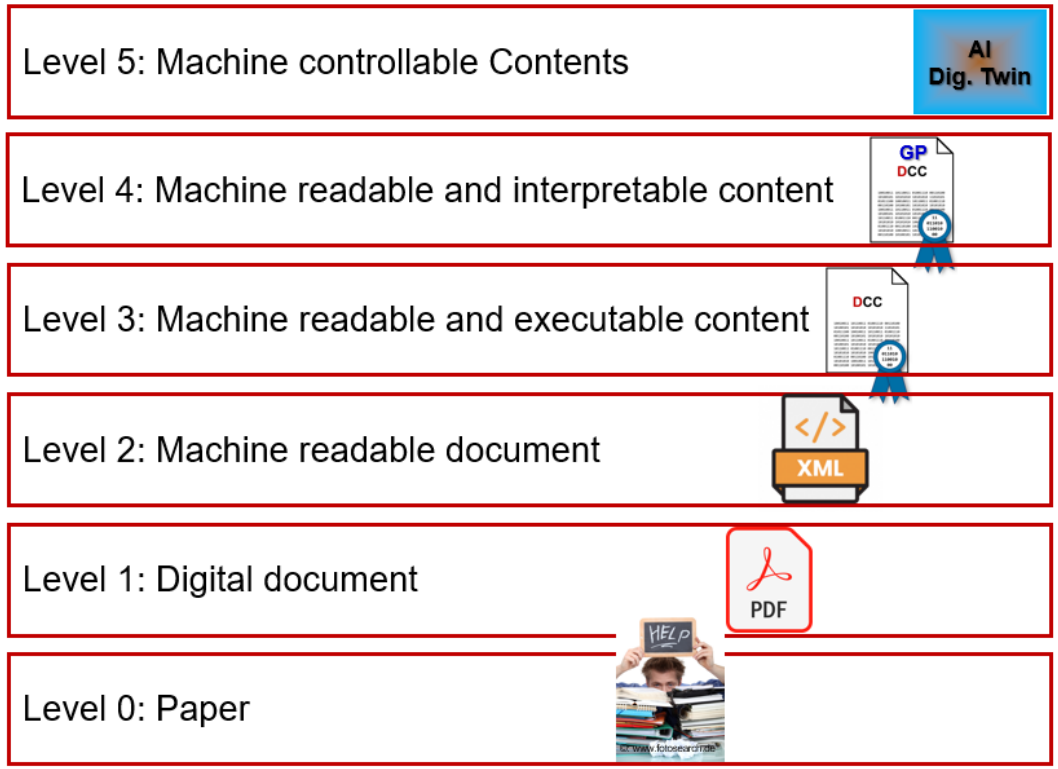
In a few words….

"The usage of computers, instruments, IT technologies to automate and optimize a process though the exchange of standardized data between machines in order to give traceability among the metrology value chain "



# Defining the Strategy

## The Utility-Model




From: „IDiS – Initiative Digitale Standards“. [Online]. see: https://www.dke.de/idis

# Proposed steps in order to implement DCC in a laboratory

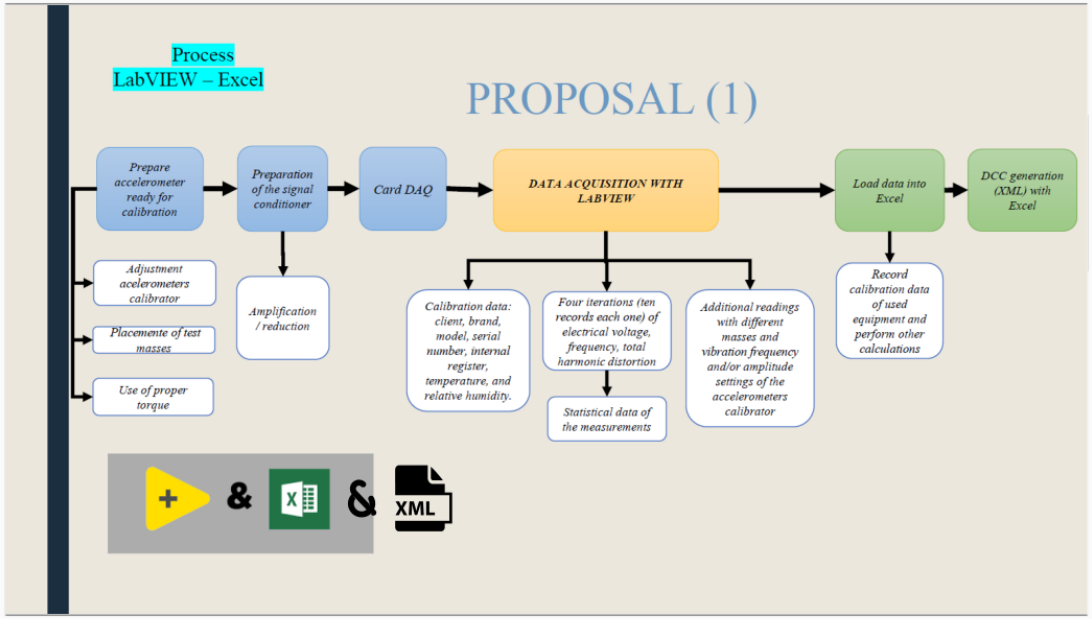
1. Selection of pilot laboratories for the implementation of the digital calibration certificate
2. To know metrological technology readiness level of the laboratory.
   a) Identify the kind of digitalization level
3. Identification of pilot project of calibration services for the digitalization and later implementation of the digital calibration certificate.
   a) The prioritization is defined with the comparison of aspects such as complexity of the service against automation.
   b) Number of calibrations per year
4. Identifying DCC dependencies into the calibrations process
   a) Generate pilot DCC sub-schemes from calibration references like primary references, instrumentation chain components and uncertainty sources, that are included in the process.
   b) Select the best route map in order to achieve the stablished goals (Get experience, user request, user needs, etc).
5. Follow or propose good practice for the quantity of interest.

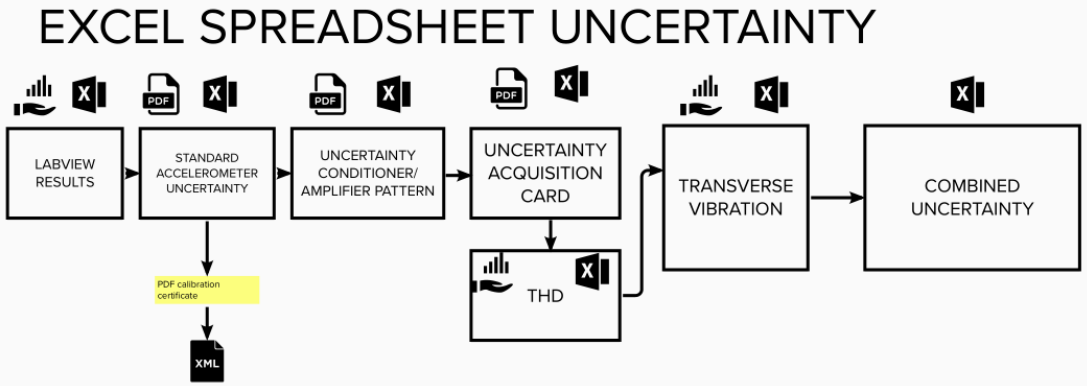
# A user case……

1. Implementing DCC at secondary calibration laboratory of alternating acceleration.
2. MTRL=Intermediate level (Metrologiest intervention)
   a) Usage of Excel (calculation of the data) and LabVIEW (automated measurements)
3. Calibration of accelerometer calibrators
   a) Its the easiest service of calibration (regarding the measurement chain and calibration time)
   b) Its one of most used calibration service at the laboratory

# Identifying DCC dependencies into the calibrations process

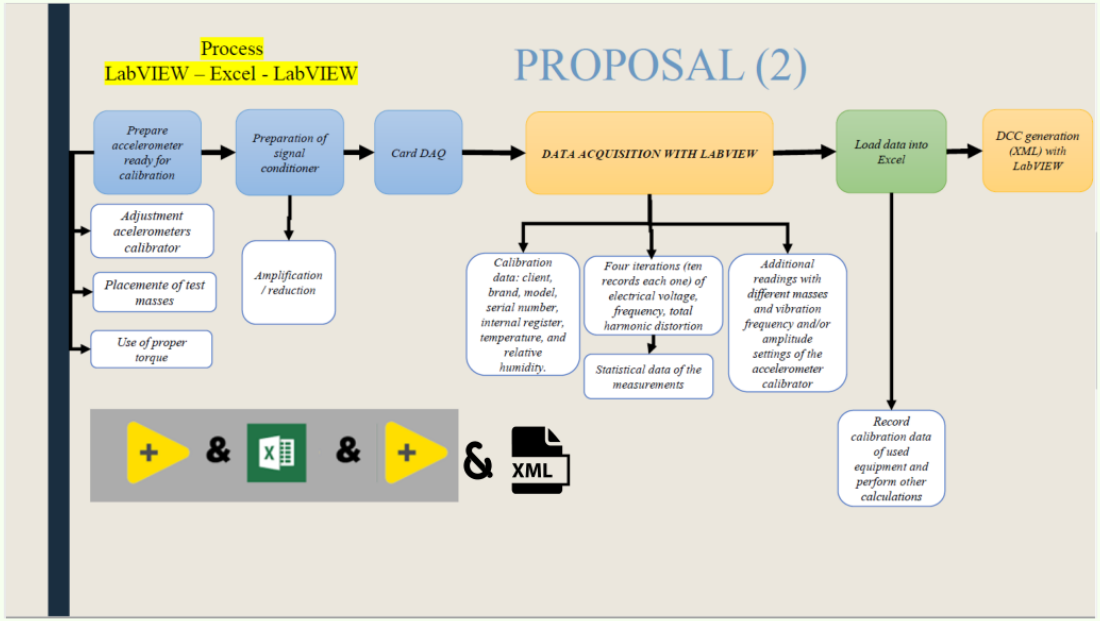
# Proposal 1

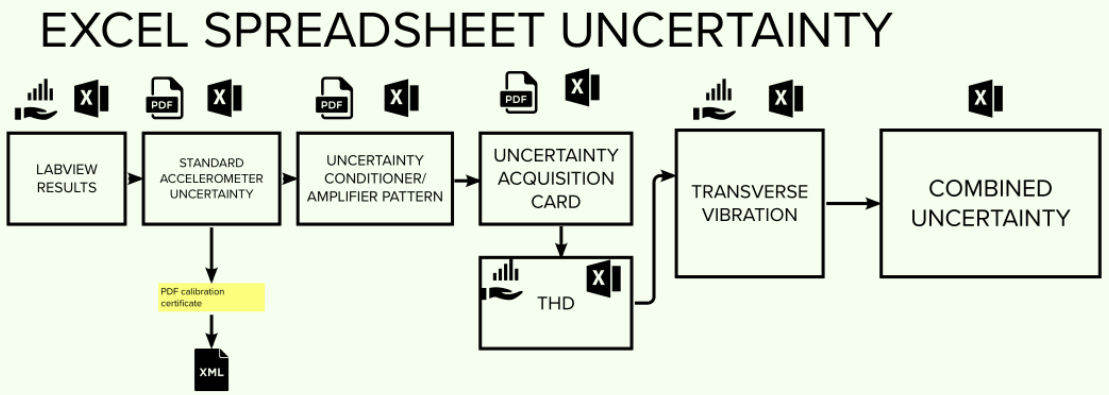


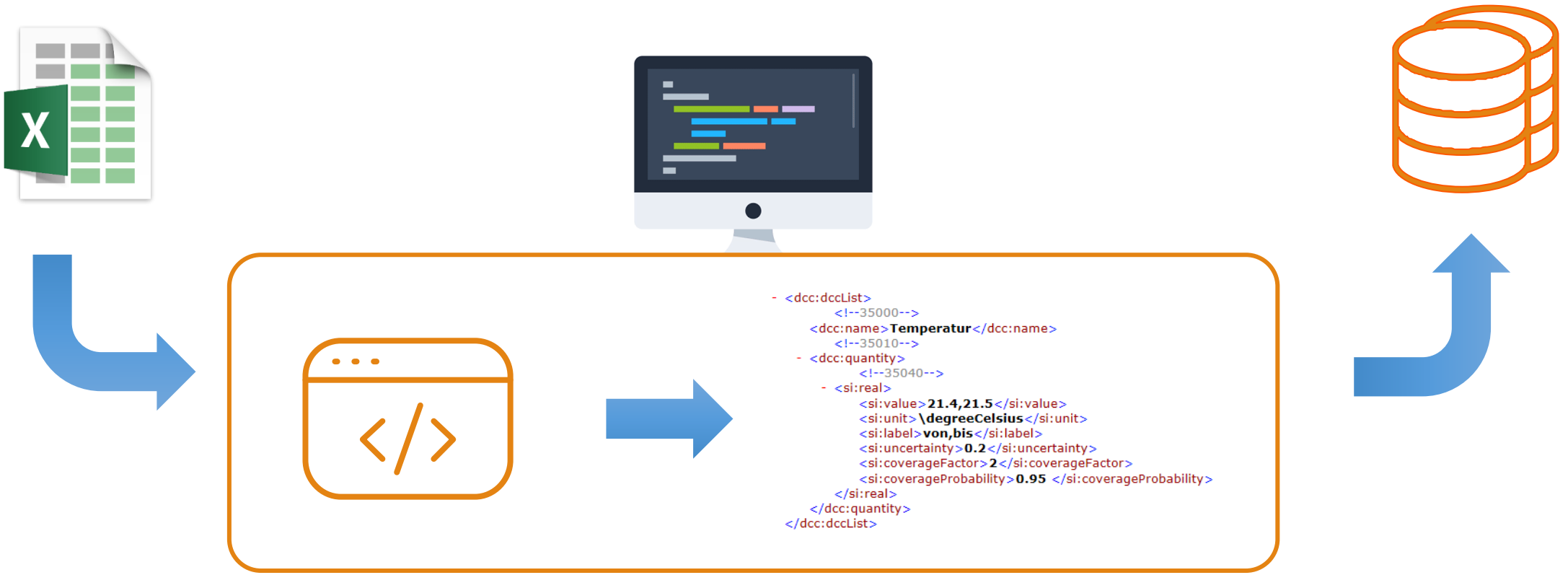
# Identifying DCC dependencies into the calibrations process

# Proposal 2



# Excel & XML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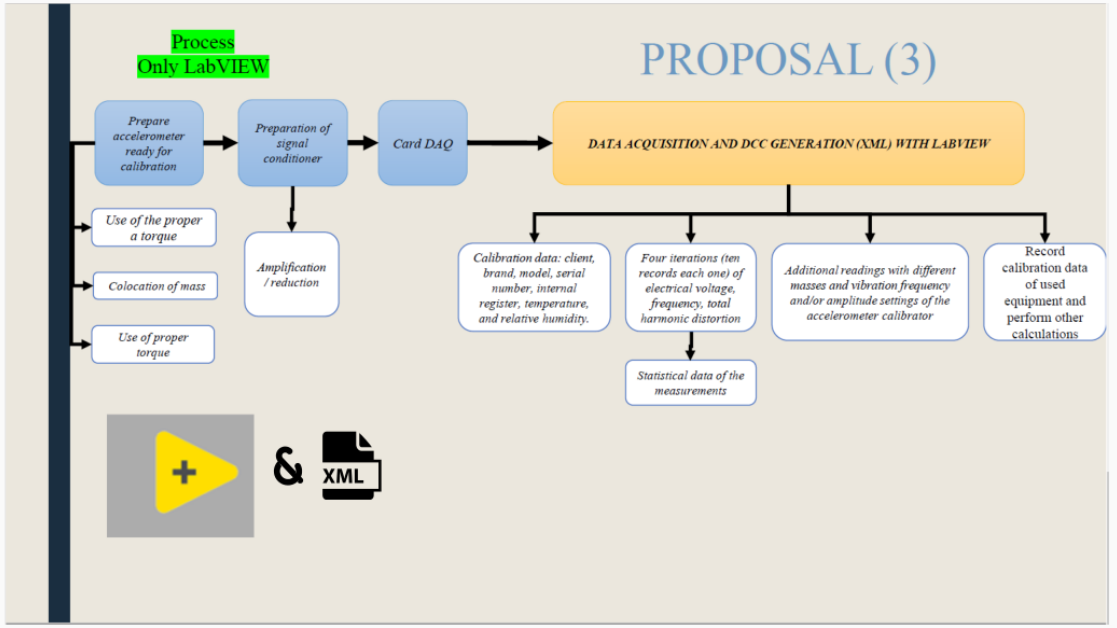
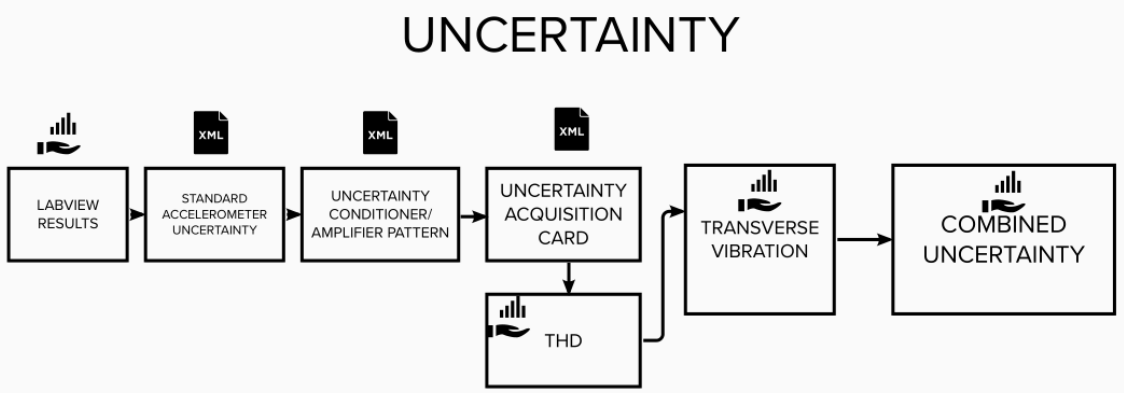
# Identifying DCC dependencies into the calibrations process

# Proposal 3



# Propose good practice for the quantity of alternating acceleration.

We spect to have a pilot DCC at the end of this year so  its a work in progress

concluding remarks:

- is a multidisciplinary development.
- focus on developments that can be replicated to more services and not just one.
- focus on services that can impact users.


# Questions