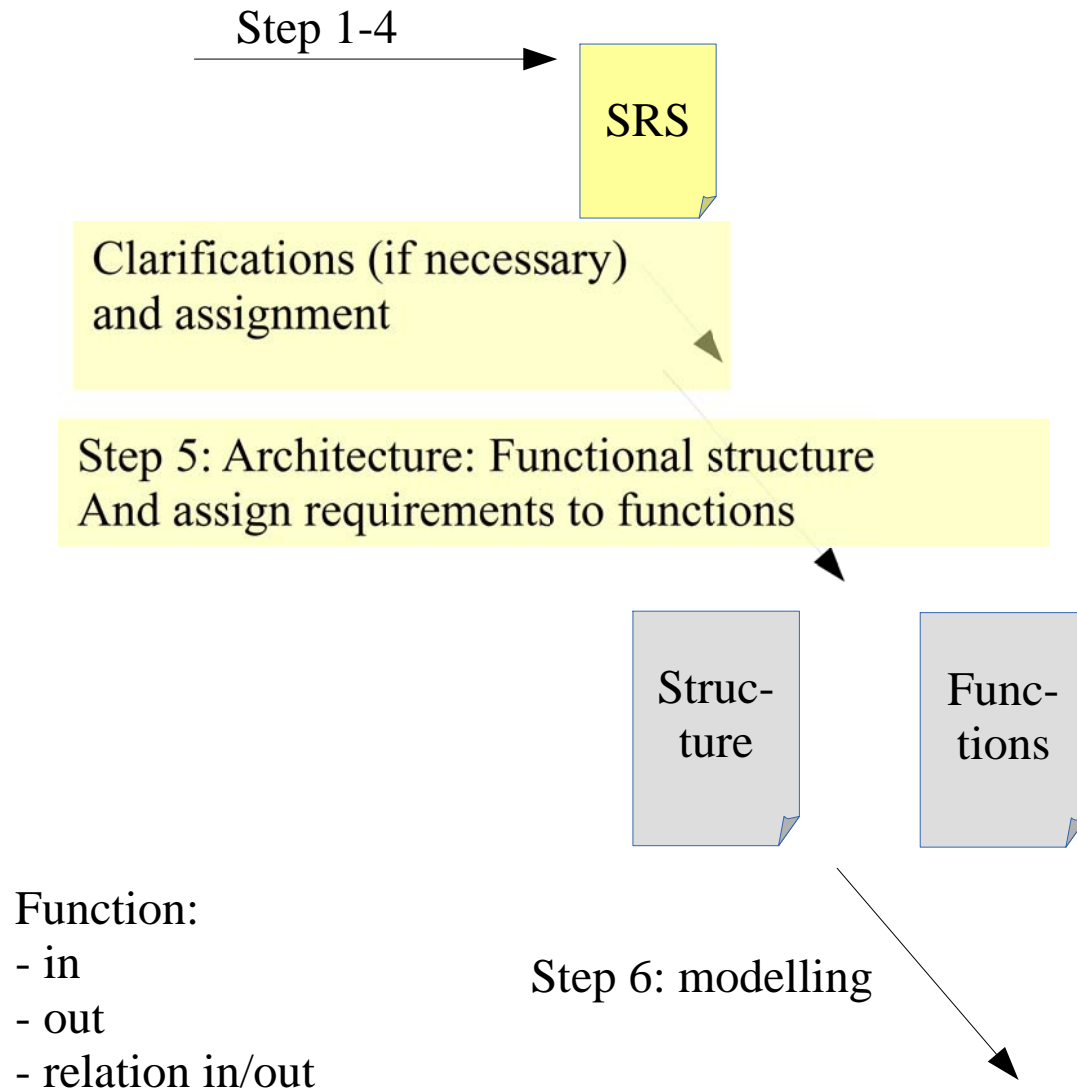


Functional analysis of the SRS

Relation functional analysis to “CENELEC” activities (50126-29)



Clarification and assignment
(arbitrary example)

“An unlinked BG shall not be a single BG”:

- Engineering rule
- What shall the OBU do if an unlinked single BG is detected?

Functional requirement structure:
What if?:

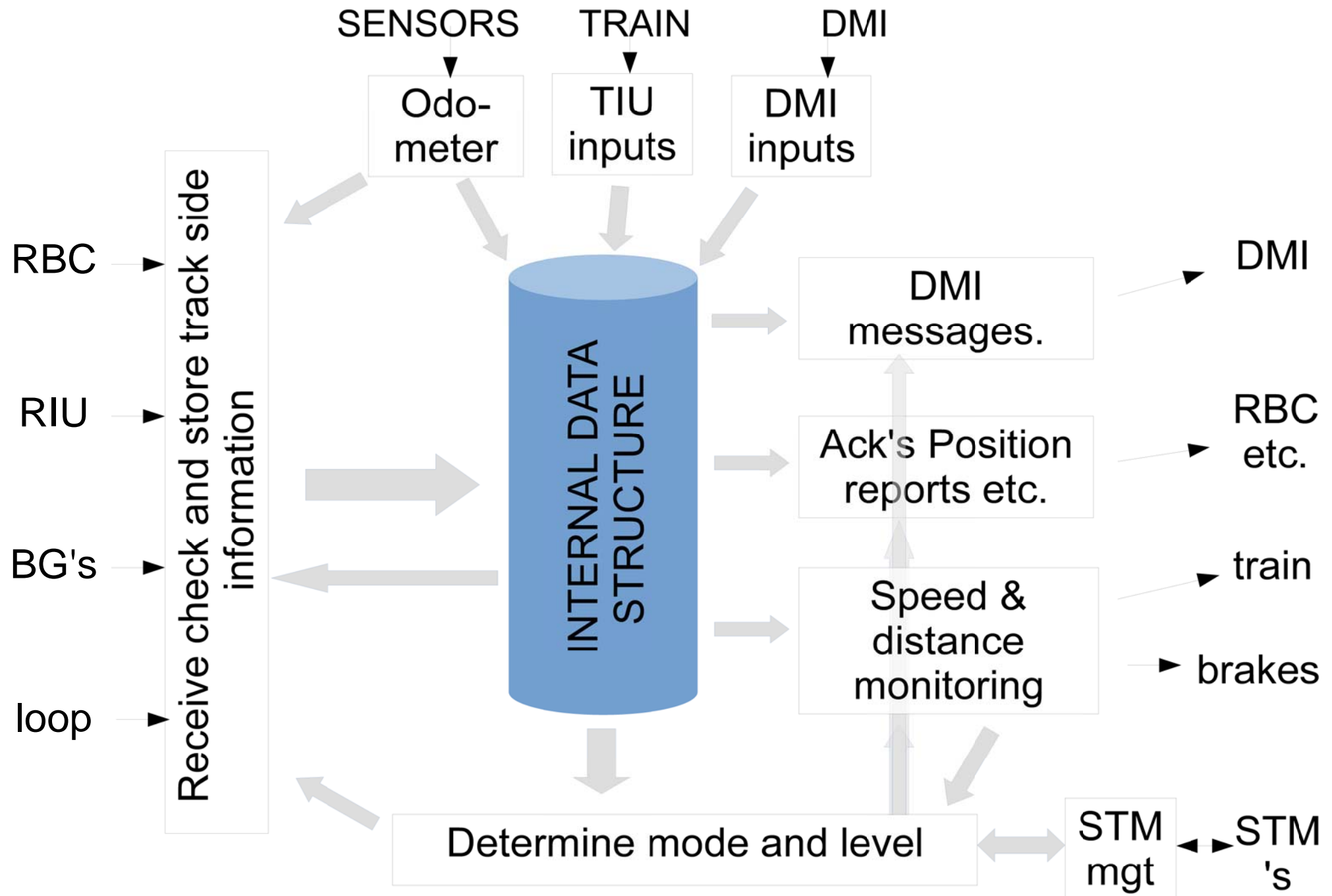
- Specific information from track side is received?
- A certain condition (location, speed,...) is reached?
- Specific inputs from the train or driver are received?
- xxxxxxxxxxxx

Steps

- Agree on a high level functional structure (1st version)
- Analyse and clarify the SRS (+ other inputs)
assign the requirements to detailed functions
- Detail the functional structure
- Design the internal data structure
- Describe the detailed functions

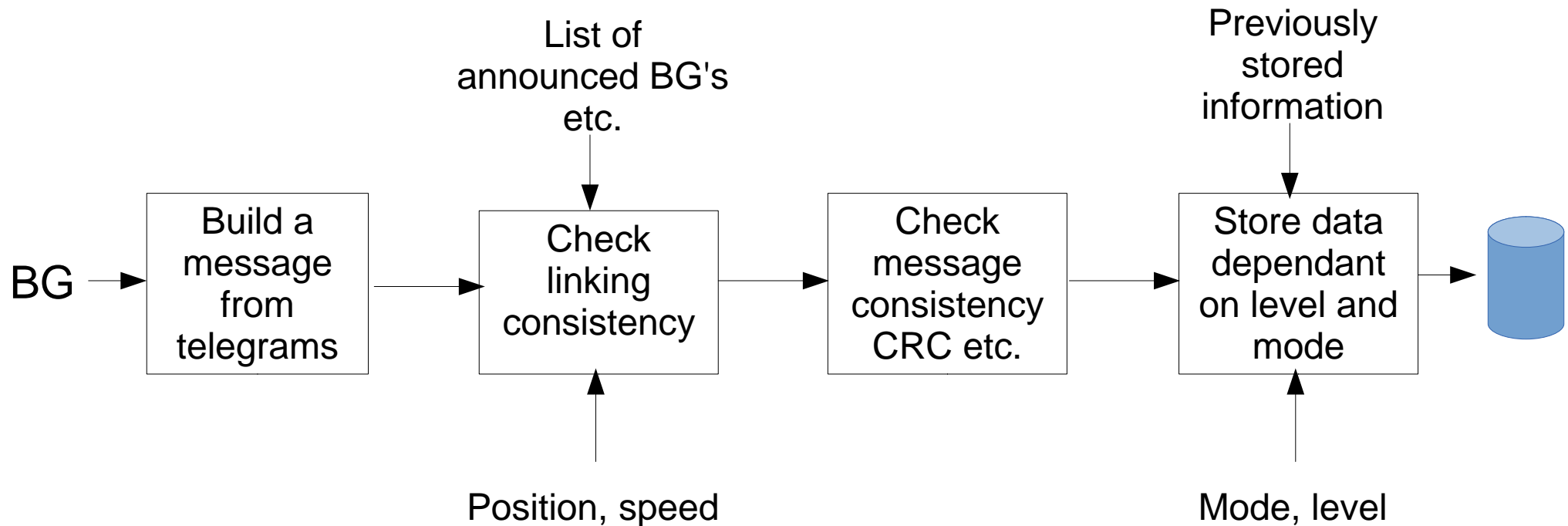
ITERATING PROCESS

Functional structure



Arbitrary example: detailing receiving BG messages

- Receiving, checking and storing BG messages is a sub function of the input function. Further detailing:



SRS analysis

- Determine the track side and OBU functions
- Group the conditions for OBU actions
- Relate the OBU requirements to messages/packets/variables
- Name and describe the detailed OBU functions
- Fit the functions in the overall functional structure

Example linking to variables: reference balise

The reference balise in a BG is balise 1.....

The balises are numbered in the telegram from 0..7

Example data structure: storing LRBG's

3.6.2.2.2a / 3.4.2.3.3.7.1 / 3.6.1.4 / 3.6.1.4.1:

If a BG is detected it will be used as LRBG if:

- It's announced and marked as linked or
- No BG's are announced and the BG is marked as linked

But: what if no LRBG is available but location or profile data shall be stored?

So new aspect for data structure “list of LRBG's”

Example: calculating the expectation window

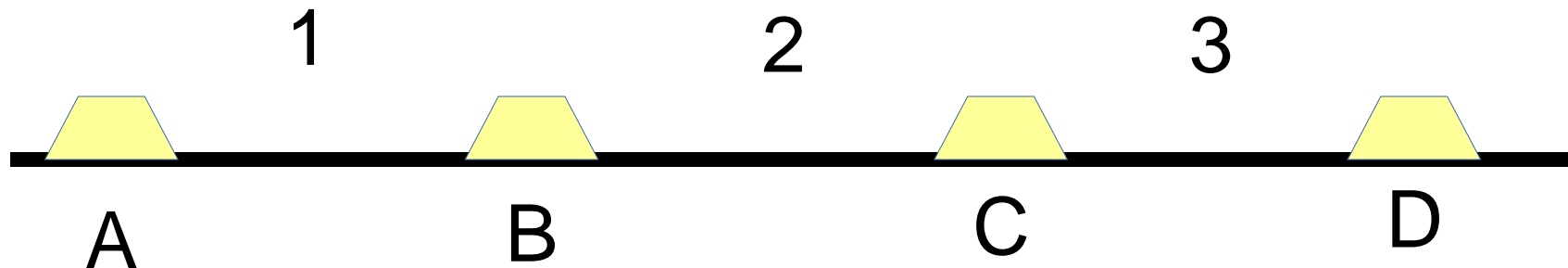
3.4.4.4.3.1 / 3.4.4.4.4

BG shall be expected at the possible locations

But:

How is the location accuracy of a BG (LOC_ACC) defined:

- Linking distance? or
- Absolute position?



Resources needed for

- Analysing the SRS to relate requirements to inputs
- Requirement management
- Solving the issues (compare with current implementations)
- Define and describe functions
- Develop and maintain the functional structure
- Detail the functions
- Verifications