



ALDREN

ALLIANCE
for Deep RENOVATION
in buildings

Implementing the European
Common Voluntary Certification
Scheme, as back-bone along the
whole deep renovation process

ALDREN

Building Renovation Passport and Renovation Strategies

ALDREN AlIance
for Deep RENovation
in buildings



POLITECNICO
MILANO 1863

27th March 2019, Marta Maria SESANA
POLITECNICO DI MILANO



How?

Which?

Where?

Why?



Why ALDREN BRP? → 1. COMPLIANCY

The Commission (Directive 2018/844/EU Art 19a) shall, before 2020 ... introduce ...an optional **building renovation passport**:

- an instrument complementary to the **energy performance certificates**
- that can stimulate cost-effective renovation in the form of **long-term, step-by-step renovation roadmap** for a specific building
- based on **quality criteria, following an energy audit** and **outlining relevant measures and renovations...**



EPC

&

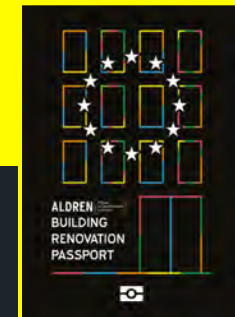


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=

→ **ALDREN Building Renovation Passport (BRP)**
= a coherent element in a common EU solution



Why

ALDREN BRP? → 2. HARMONIZATION

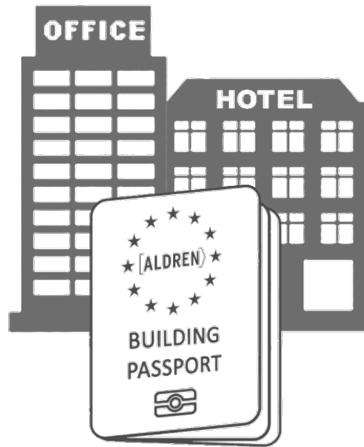


The right moment to avoid this

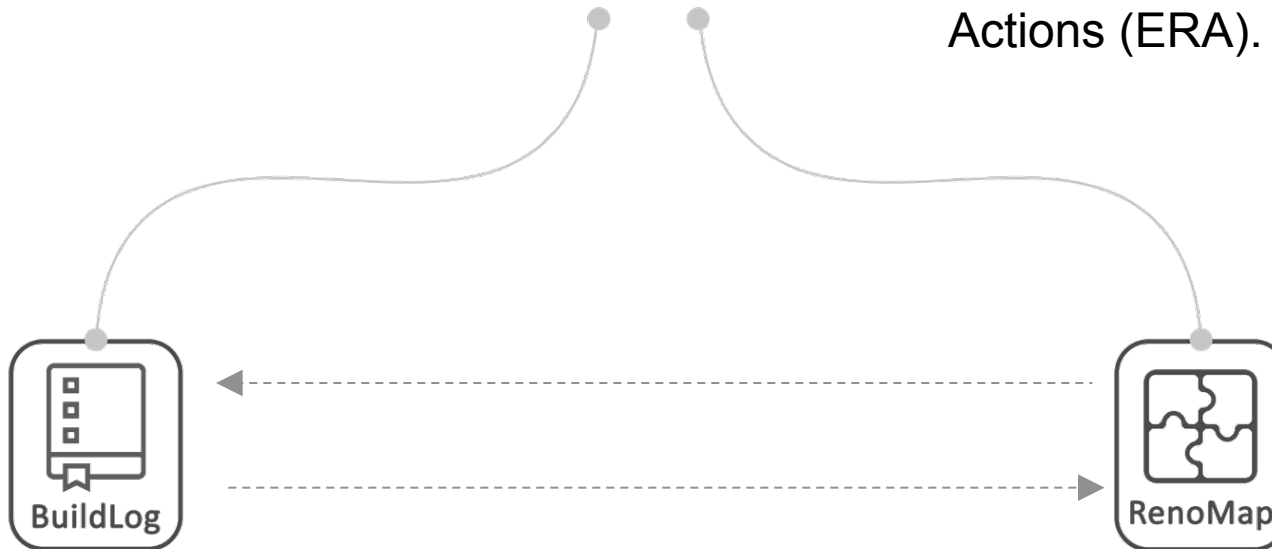


How ALDREN BRP is structured?

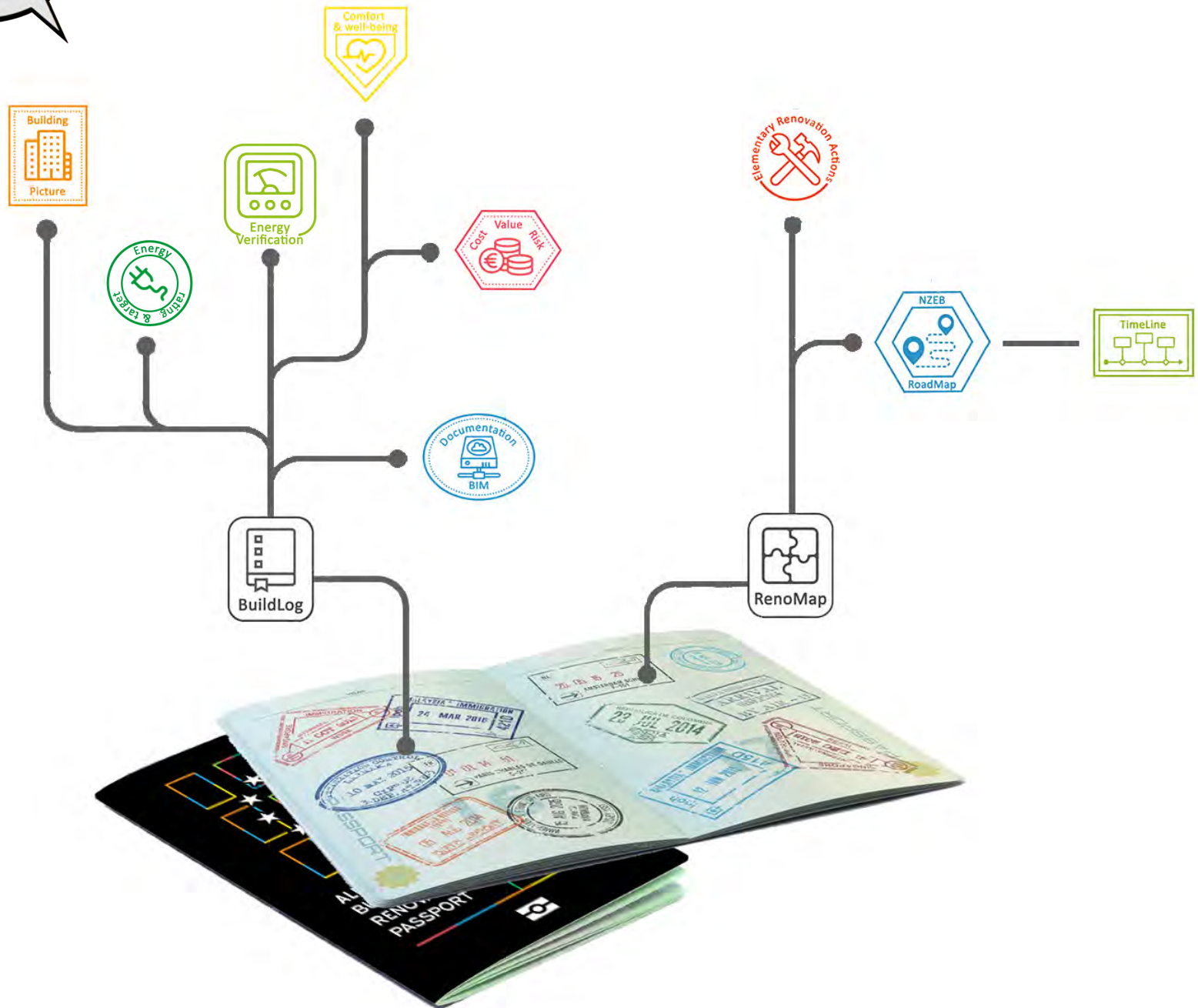
1. Building Logbook → repository of all building data and documentation for the definition of a building picture at the current stage and through the time.



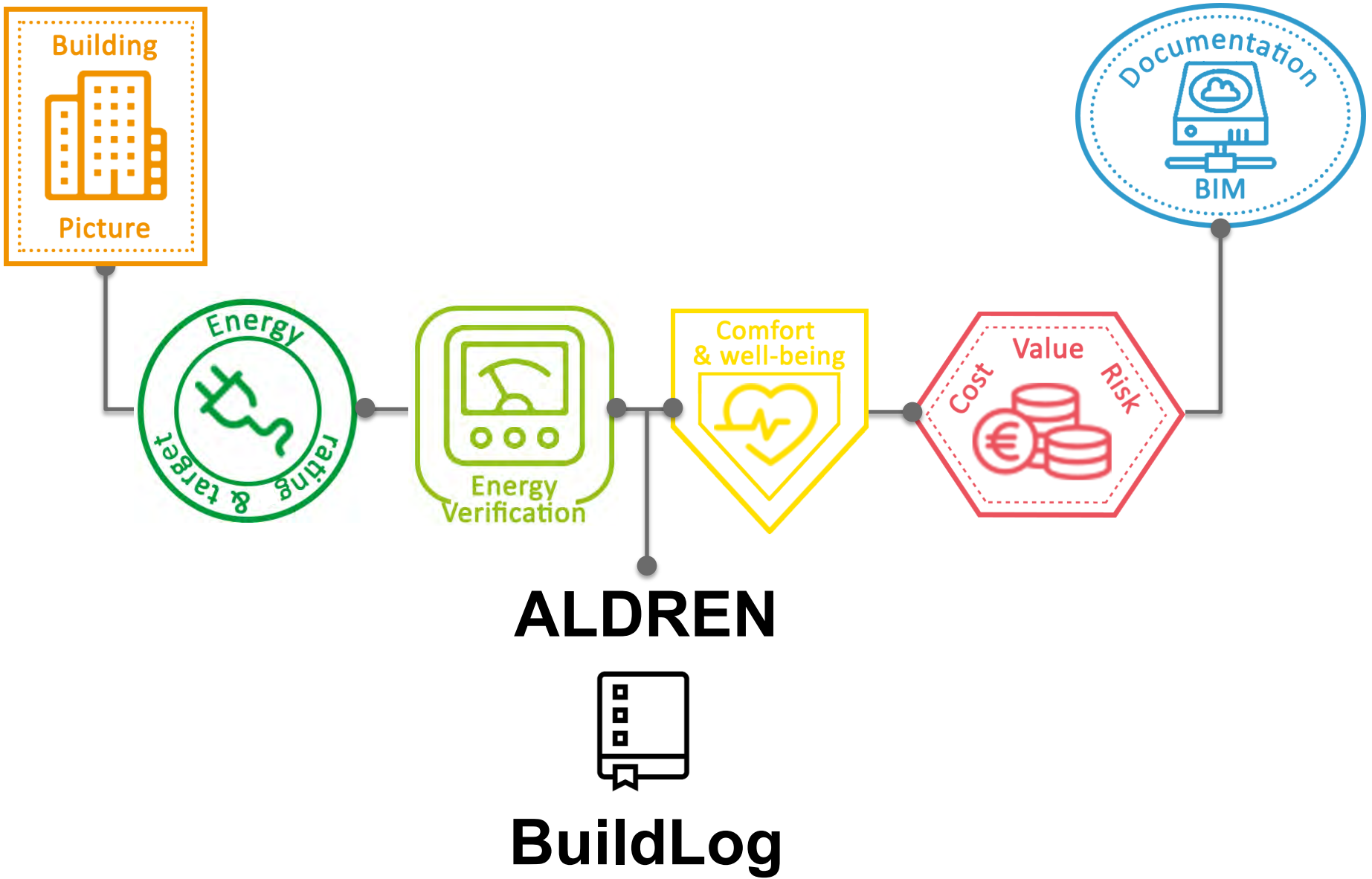
2. Renovation Roadmap → step-by-step renovation strategy plan to reach NZEB compliant target, for mid to long-term deep renovation with Elementary Renovation Actions (ERA).



How ALDREN BRP is structured?



Which are the modules of ALDREN BuildLog?



Where do you get data?

The DATA MODEL of the whole ALDREN BuildLog is organized into **different levels of data granularity from 0 to 3** to facilitate the data flow along the process and the data comprehension according to the users expertise or needs.



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LEVEL 0



HIGHEST
NUMBER OF
INDICATORS

Where do you get data?

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LEVEL 0



LEVEL 1



INDICATORS
SELECTION
FROM LEVEL 0
AS INPUT
FOR BUILDING
ASSESSMENT

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LEVEL 0



LEVEL 1



LEVEL 2



OVERALL
INDICATORS

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LEVEL 0



LEVEL 1



LEVEL 2



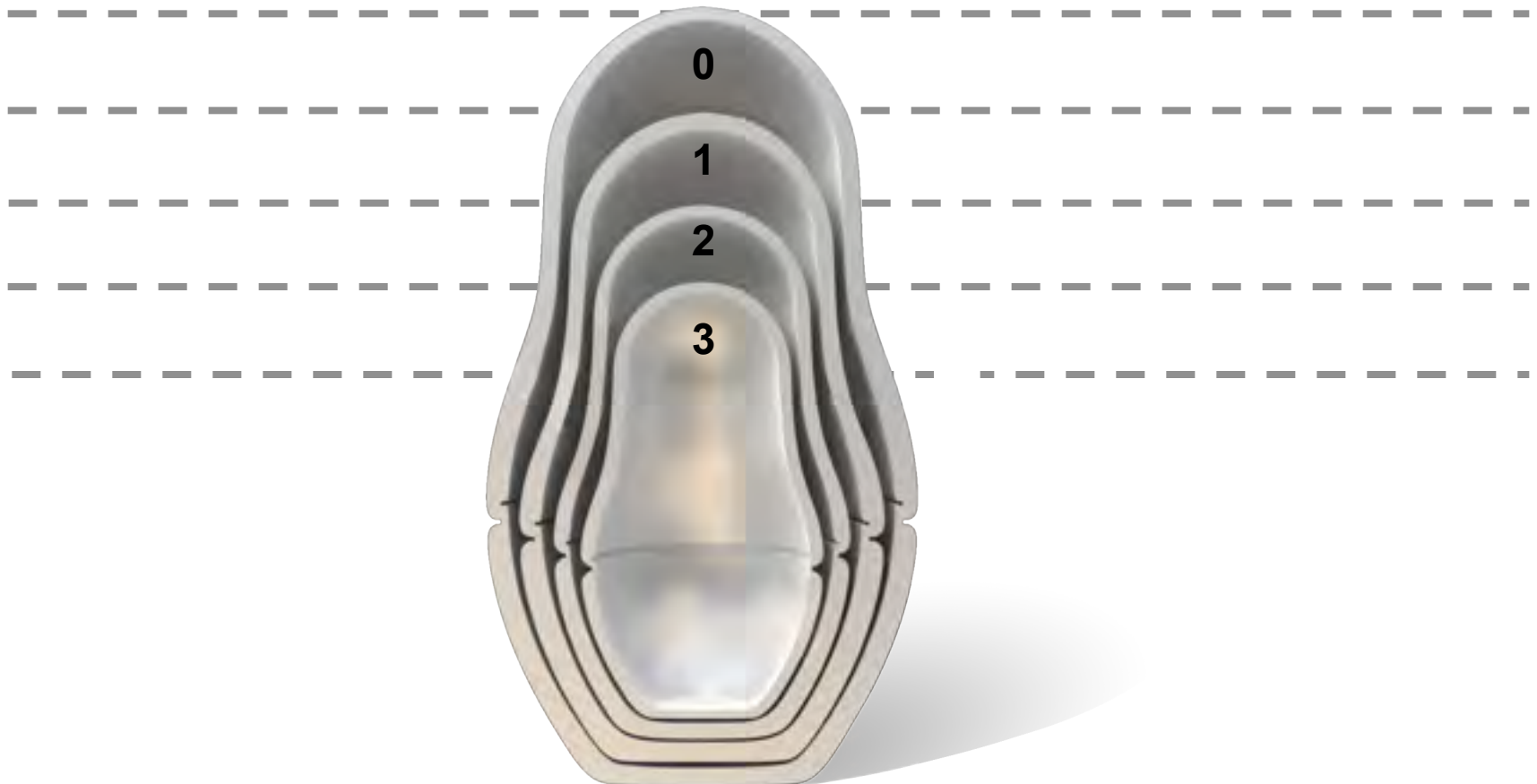
LEVEL 3



Where do you get data?

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LEVELS



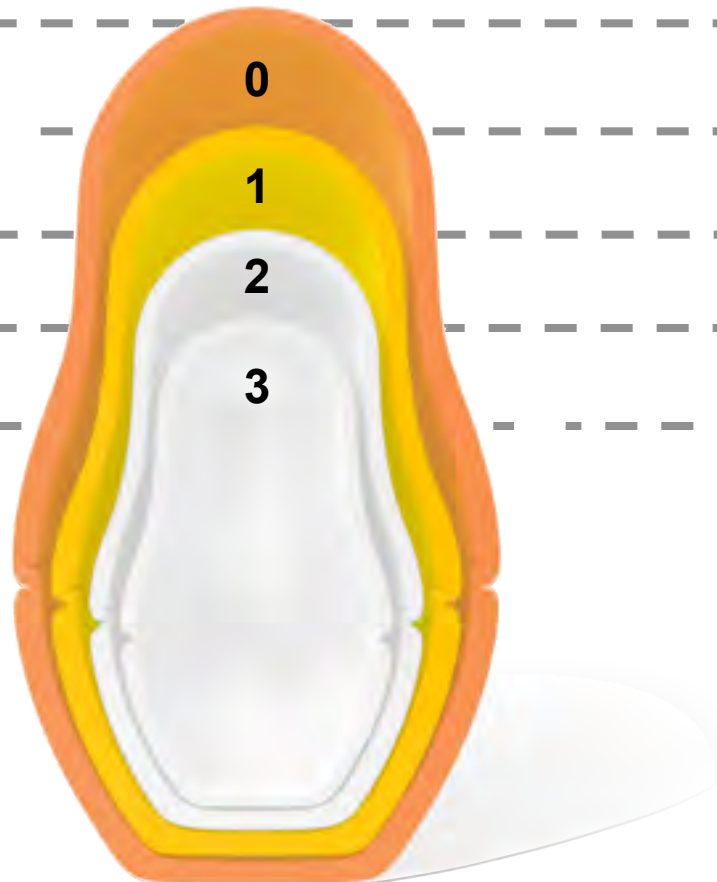
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LEVELS



“BACK-END”



→ **data limited access**
to: energy auditor,
professionals, experts,..
to feed and manage
data within a cloud
worksheet database

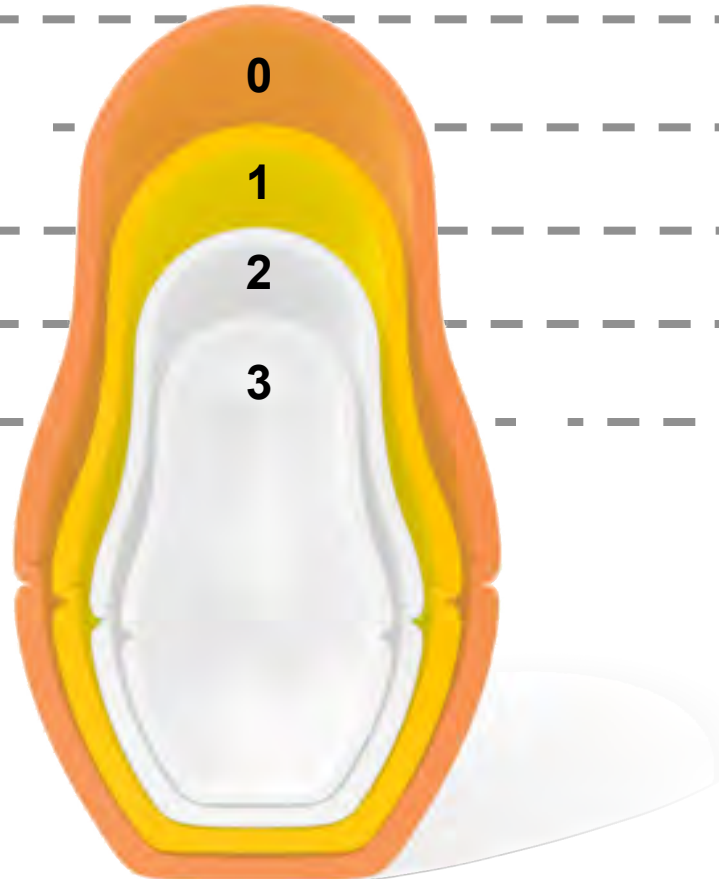
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LEVELS



“BACK-END”



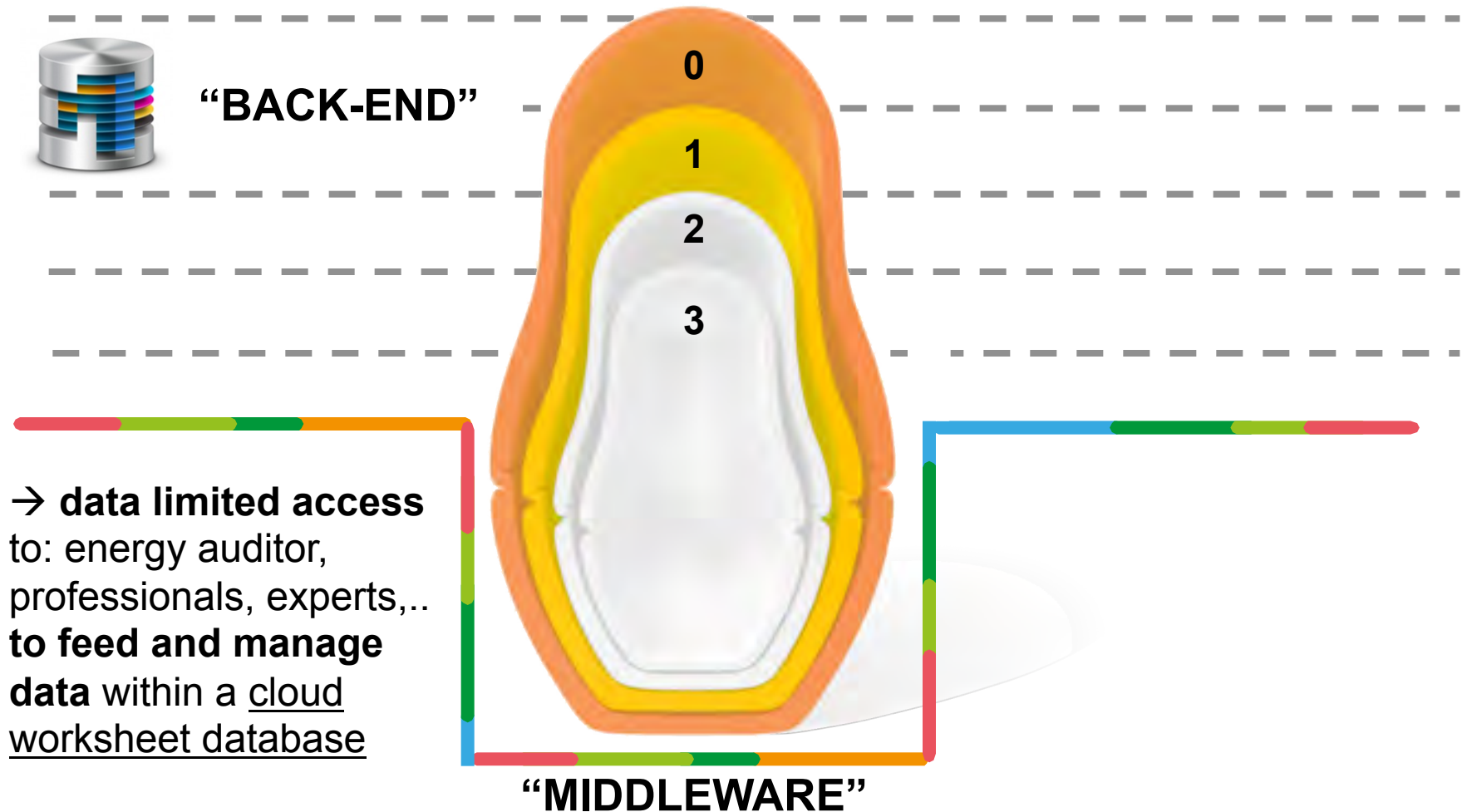
→ **data limited access**
to: energy auditor,
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“MIDDLEWARE”

Where do you get data?

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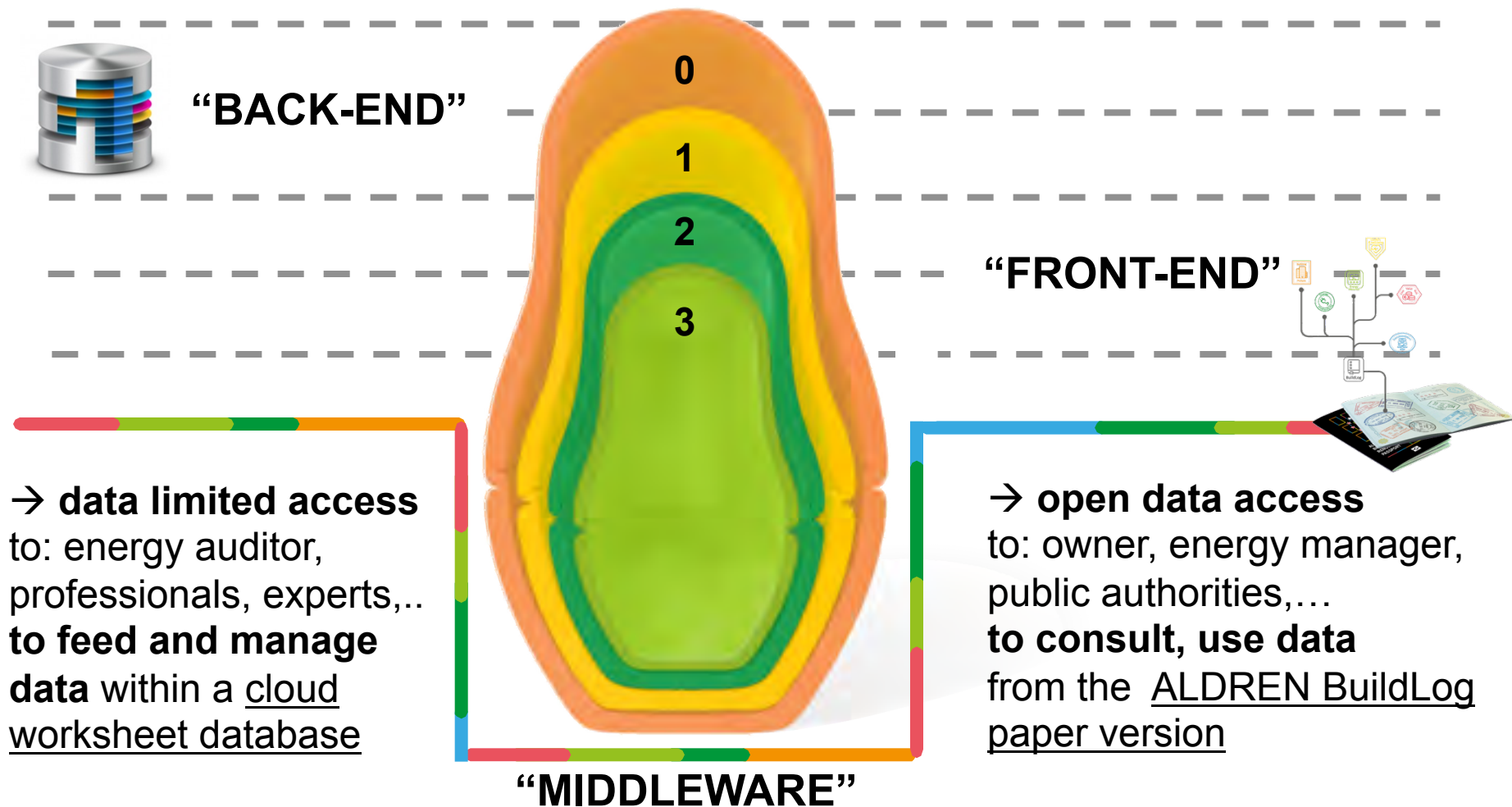
LEVELS



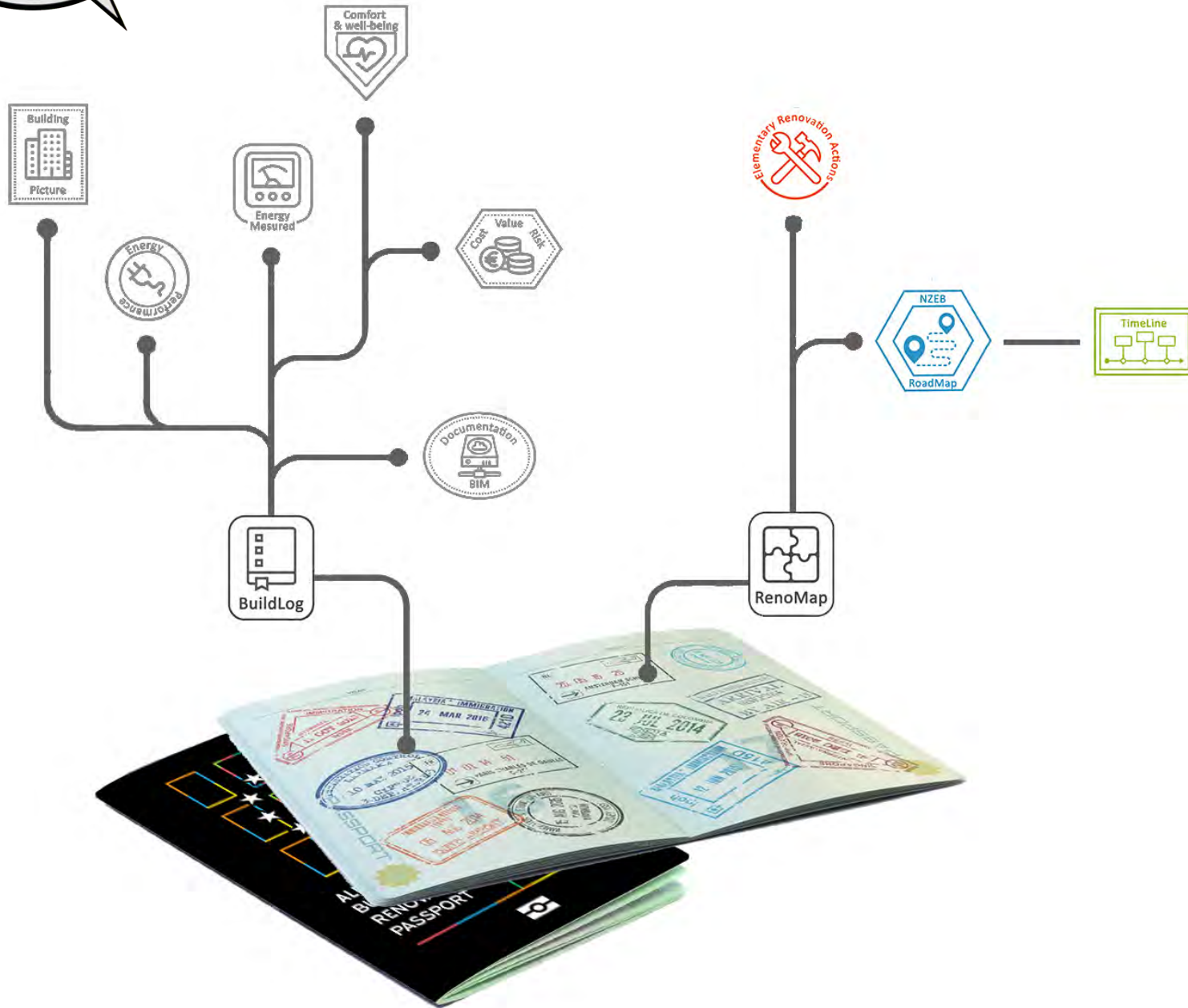
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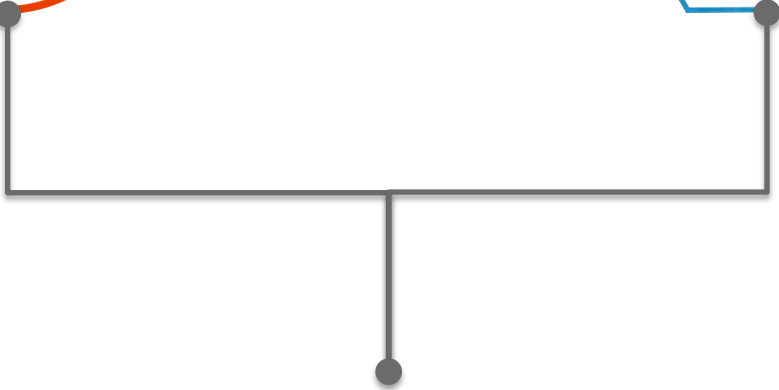


How ALDREN RenoMap is structured?



Which

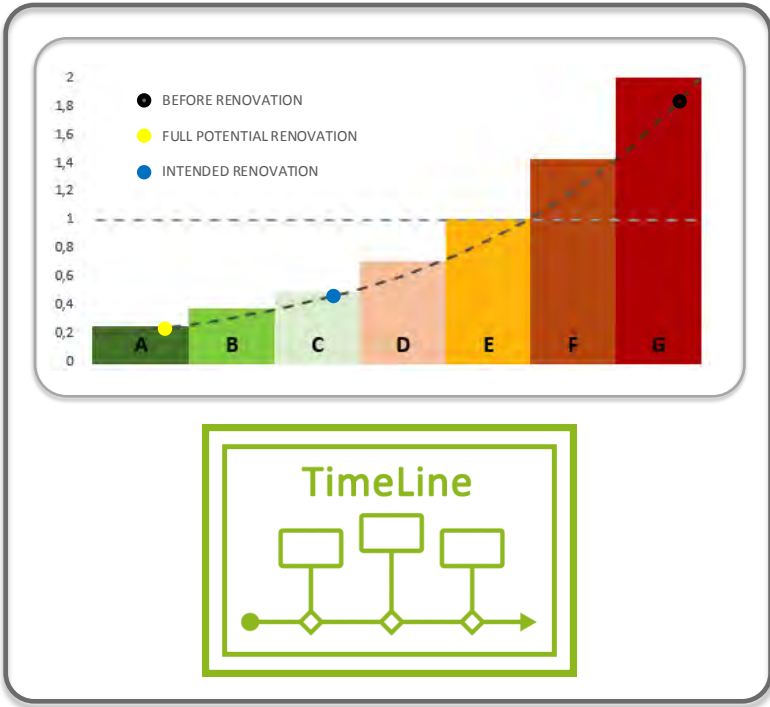
are the modules of ALDREN RenoMap?



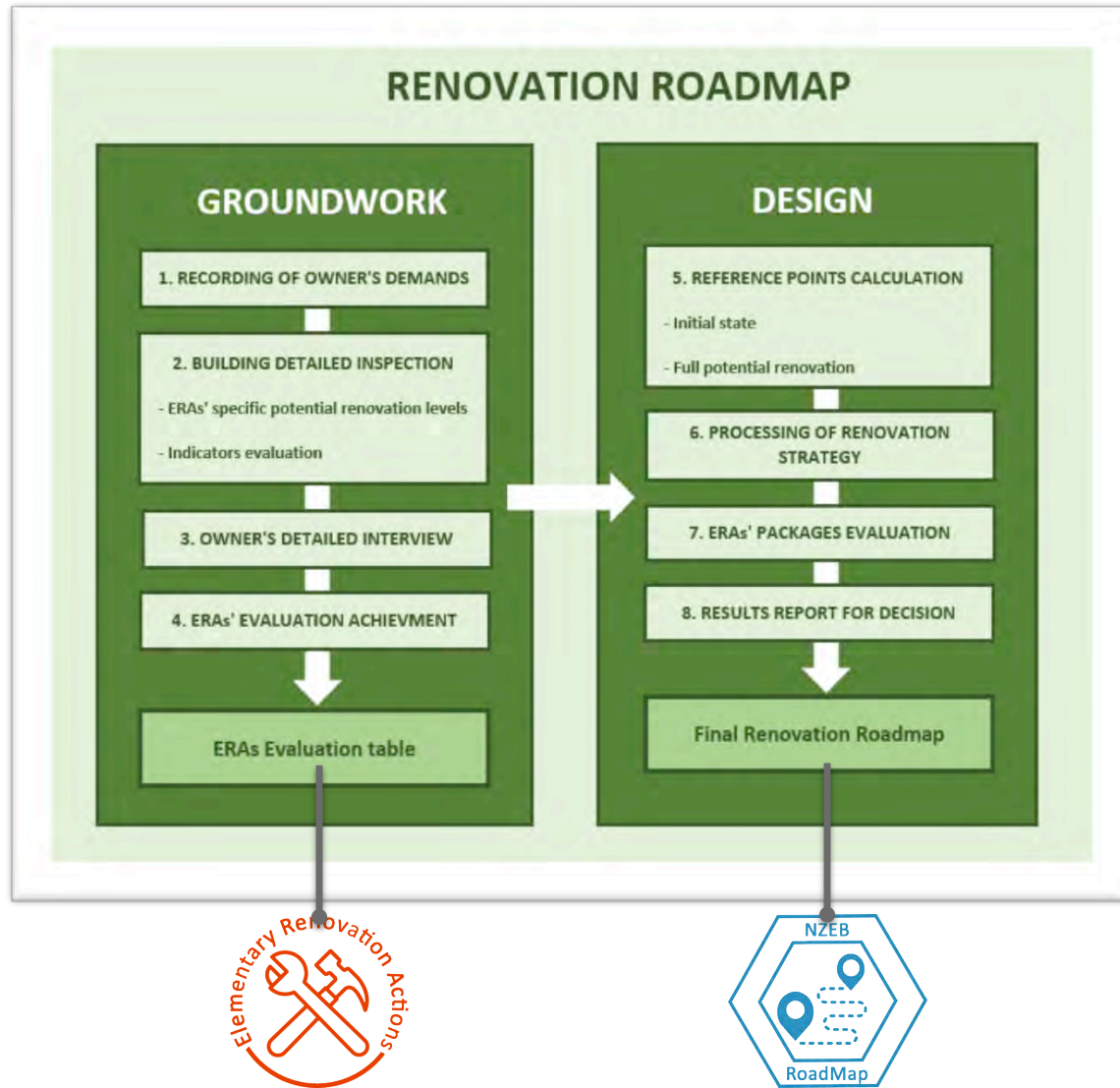
ALDREN



RenoMap



How ALDREN RenoMap is structured?



Which Highlights of the RenoMap approach?

1. Audit phase

→ Evaluation of the building manager's renovation priorities and of the current state of the building

How ?

- Interviews with the building owner/manager
- On-site inspection
- Energy, environmental and financial indicators (current building state)

2. NZEB compliant target and ERAs table

→ Evaluation of the building renovation potential for mid to long-term deep renovation

How ?

- Evaluation of a list of Energy Renovation Actions : compliant with NZEB levels
- Energy, environmental and financial indicators (ERAs)



3. Renovation strategy

→ Definition of a step-by-step renovation for deep renovation

How ?

- Strategic rules
- Highlighted short-term renovation packages
- Timeline for longer term renovation actions



Challenges and expected results of ALDREN BRP

1. Data storage and availability

→ Data are not or only partially available and scattered over many databases, departments...

→ Centralized storage location within the ALDREN DATABASE to create more transparency and increase data accessibility.

2. Collection

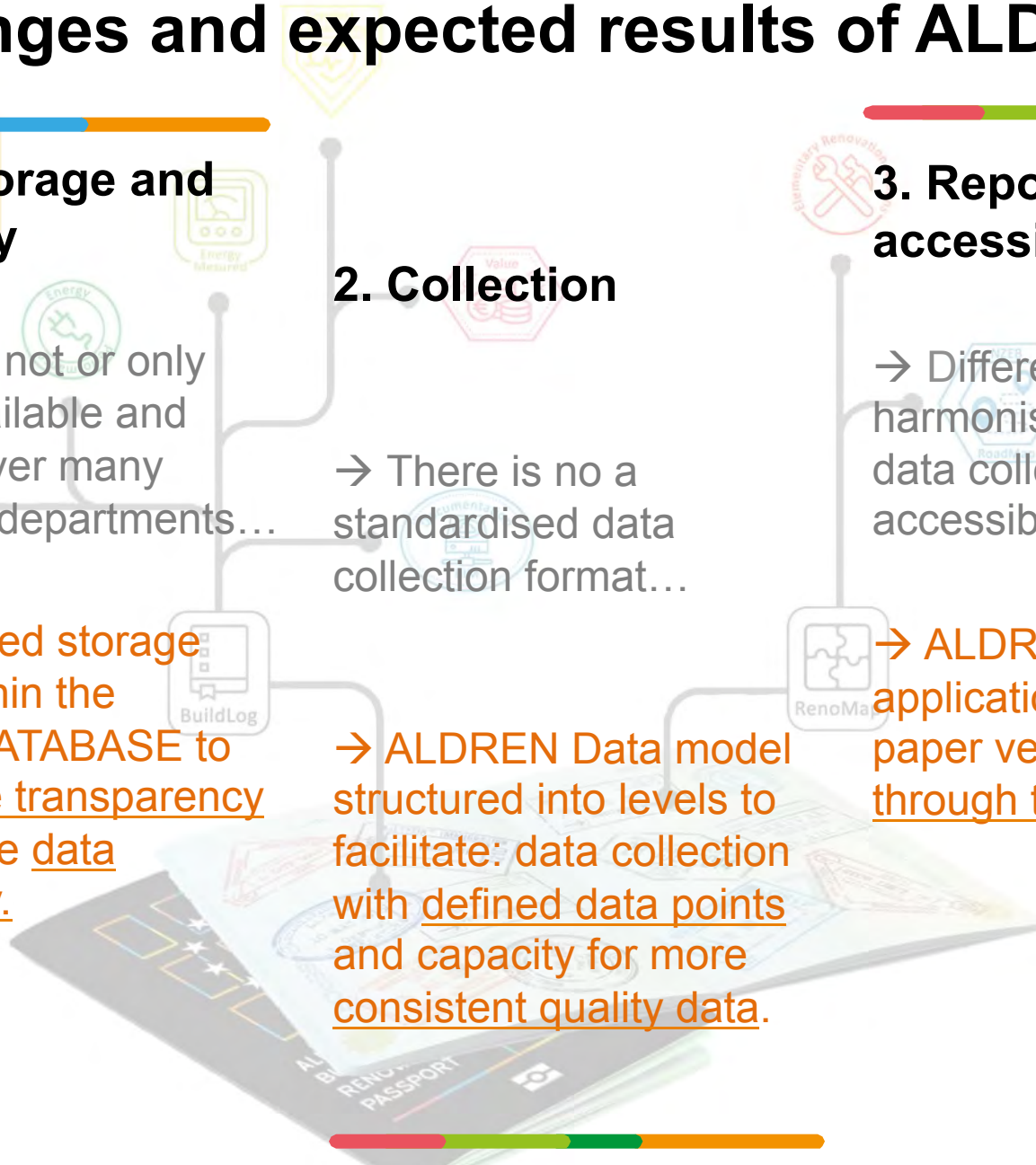
→ There is no a standardised data collection format...

→ ALDREN Data model structured into levels to facilitate: data collection with defined data points and capacity for more consistent quality data.

3. Reporting and accessibility

→ Different and non-harmonised reporting with data collected not always accessible...

→ ALDREN BRP friendly application in electronic and paper version easily update through the time.



ALDREN Approach:



0. NON-RESIDENTIAL BUILDING
TODAY

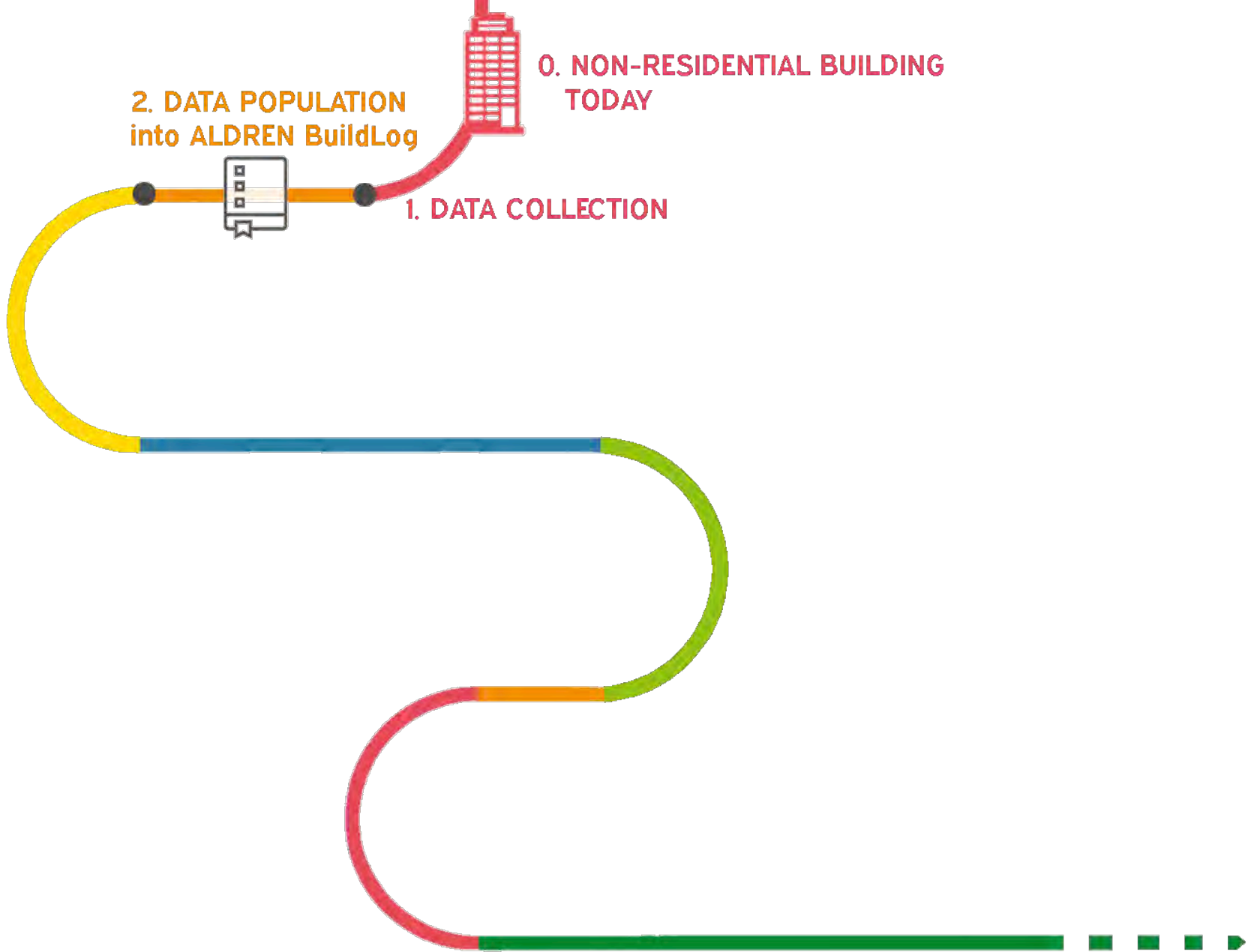
...application example
through time...



0. NON-RESIDENTIAL BUILDING TODAY

1. DATA COLLECTION





0. NON-RESIDENTIAL BUILDING TODAY



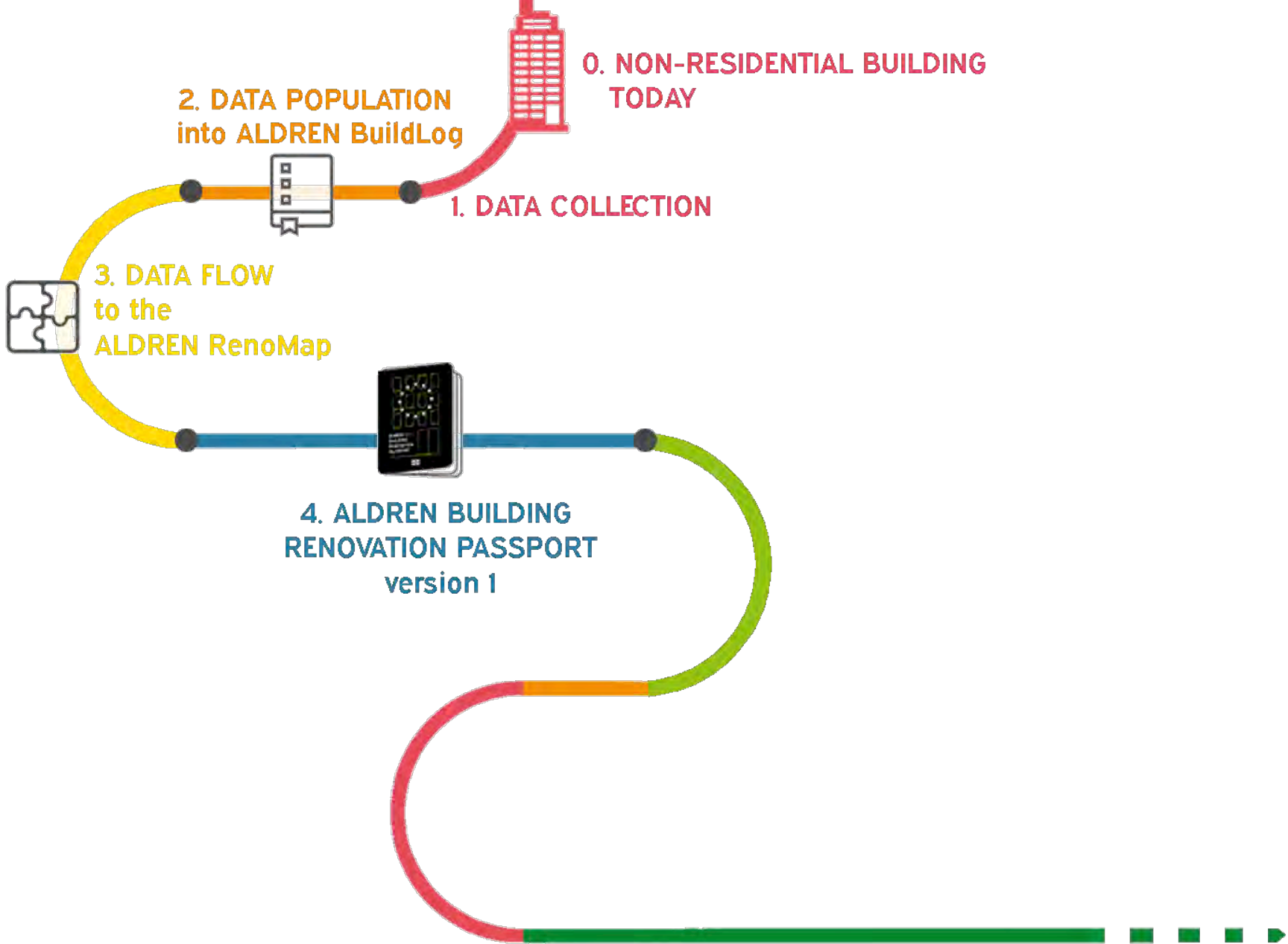
2. DATA POPULATION into ALDREN BuildLog



1. DATA COLLECTION

3. DATA FLOW to the ALDREN RenoMap





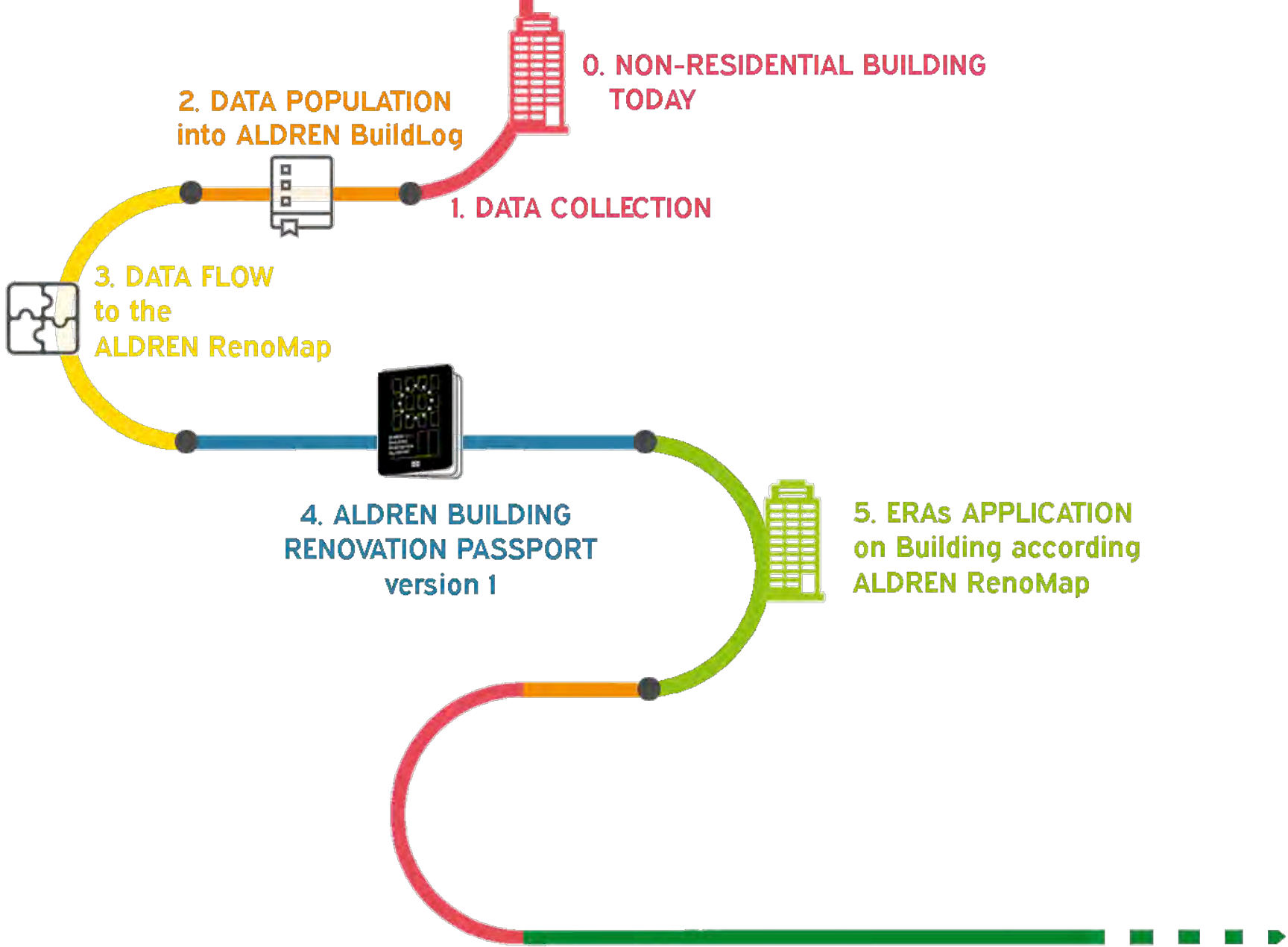
0. NON-RESIDENTIAL BUILDING TODAY

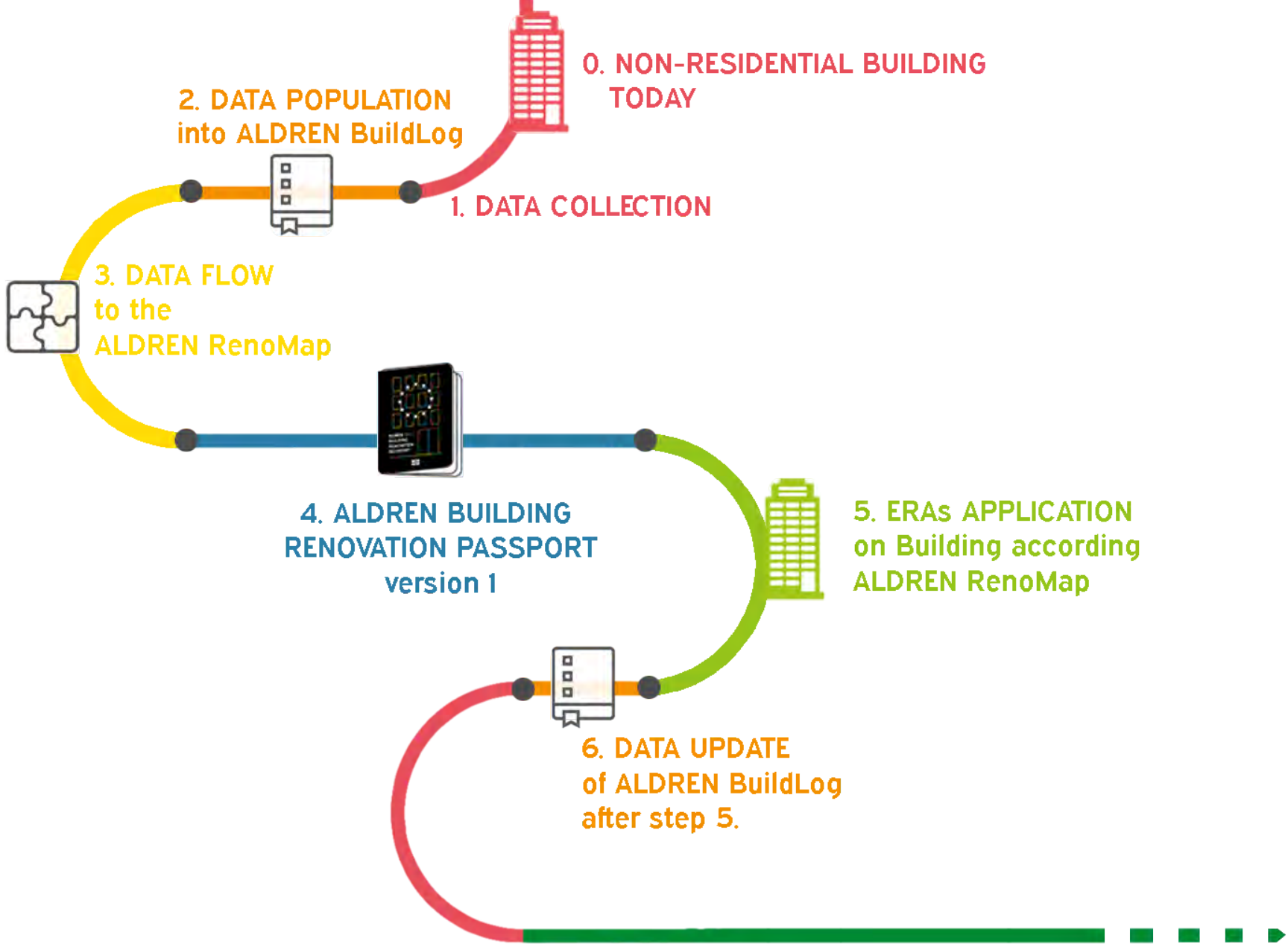
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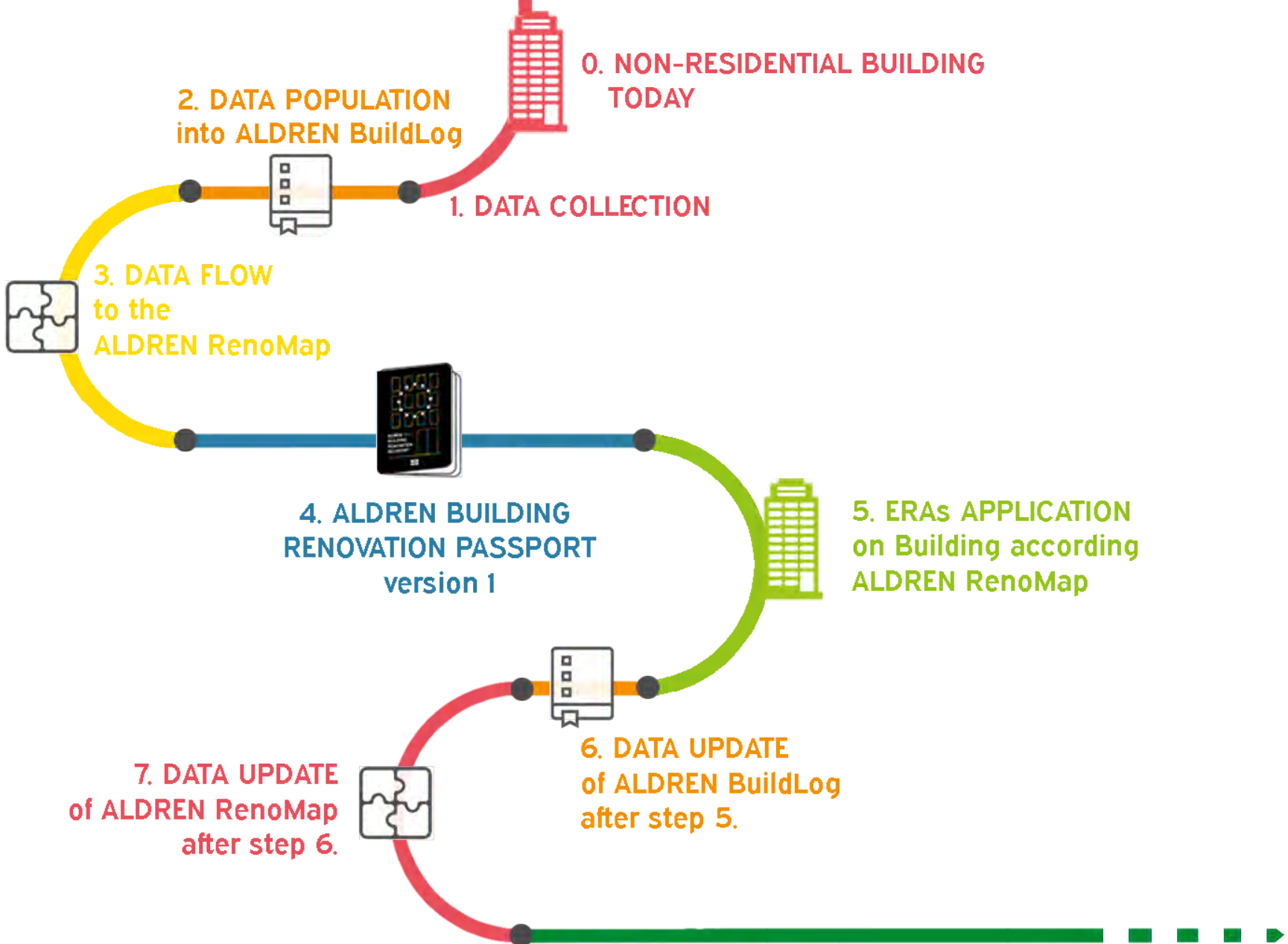
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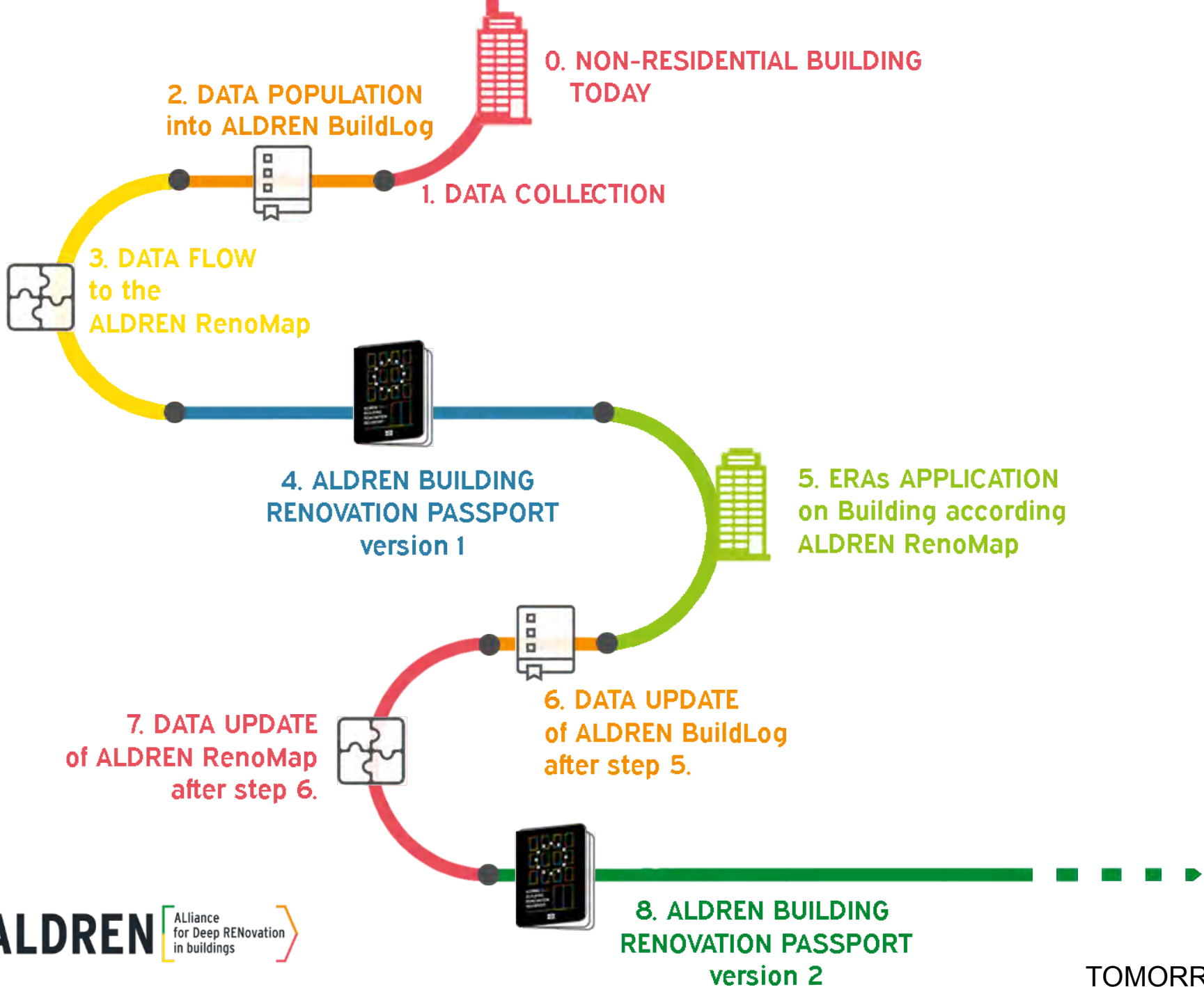
3. DATA FLOW to the ALDREN RenoMap

4. ALDREN BUILDING RENOVATION PASSPORT version 1











0. NON-RESIDENTIAL BUILDING TODAY

2. DATA POPULATION into ALDREN BuildLog



1. DATA COLLECTION

3. DATA FLOW to the ALDREN RenoMap



4. ALDREN BUILDING RENOVATION PASSPORT version 1



5. ERAs APPLICATION on Building according ALDREN RenoMap



6. DATA UPDATE of ALDREN BuildLog after step 5.

7. DATA UPDATE of ALDREN RenoMap after step 6.



8. ALDREN BUILDING RENOVATION PASSPORT version 2



NZEB TARGET

To be continued... TOMORROW



Thank you

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in buildings]