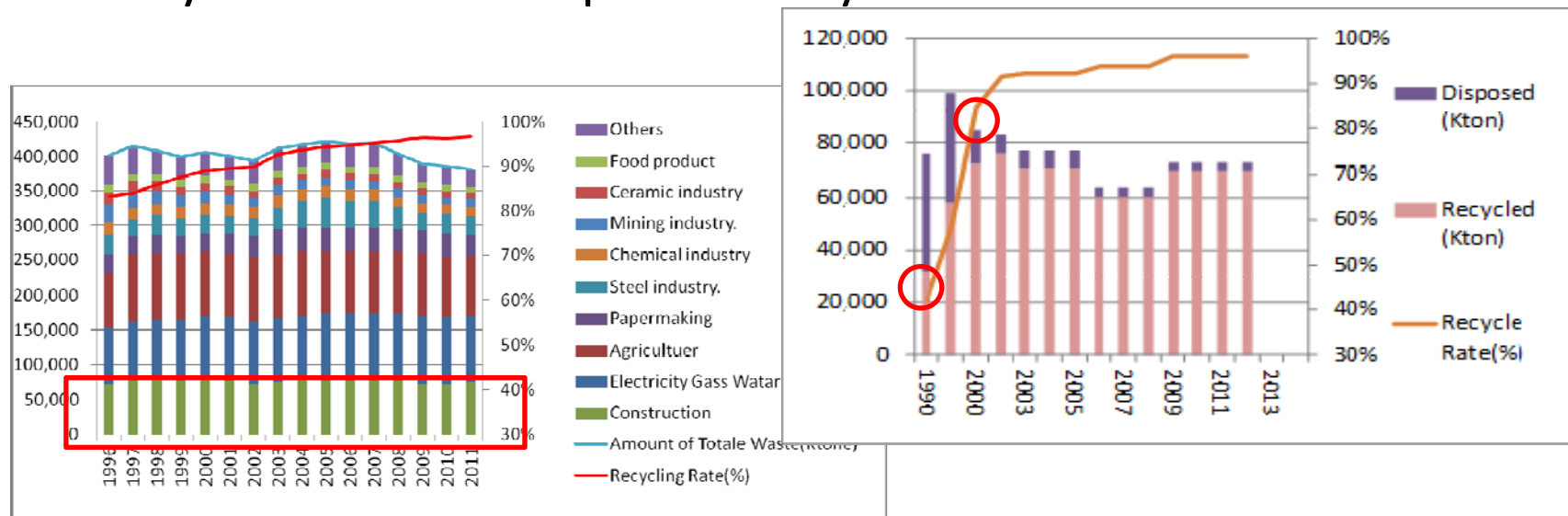


Opening data exchange for information management of C&D waste recycling

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21th April ,2017
ICCBEI 2017 TAIPEI

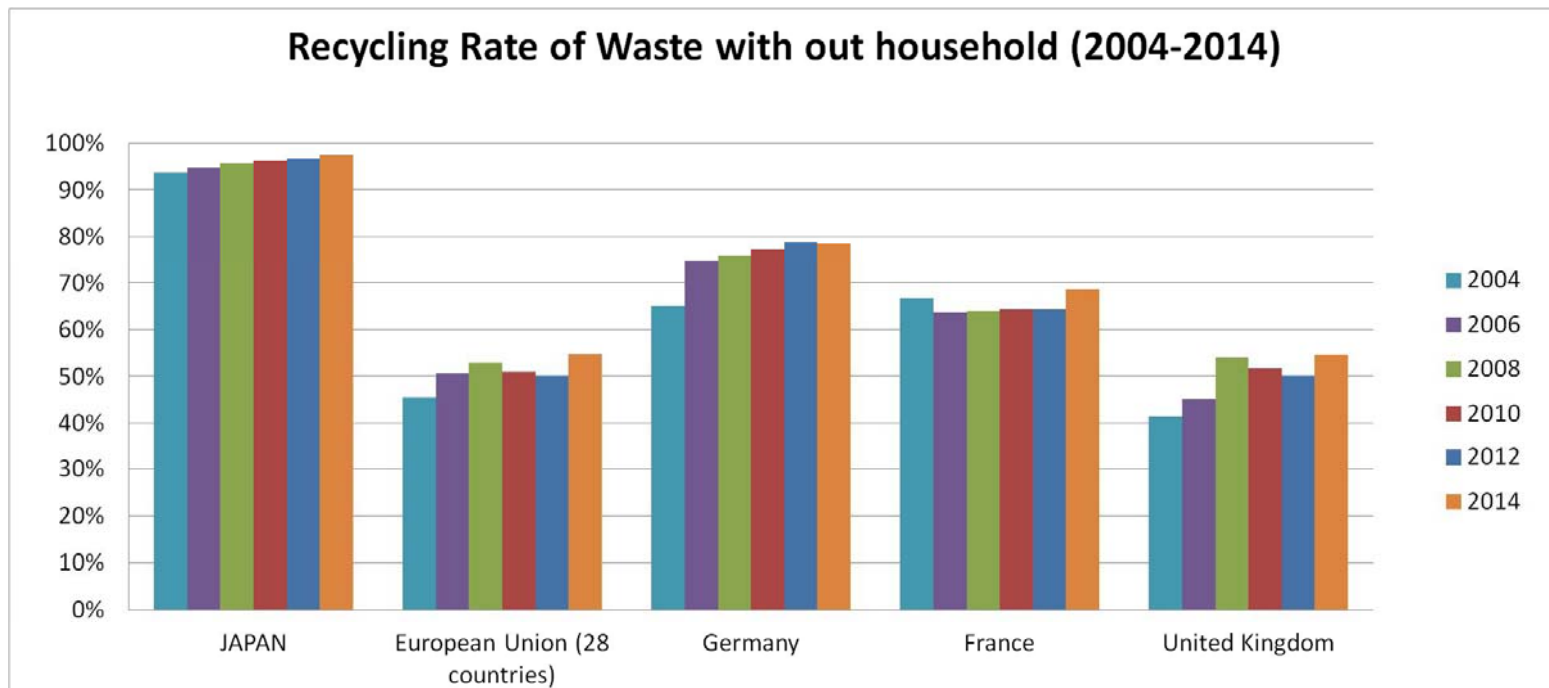
Year 2000

- JAPAN's recycling policies underwent a dramatic change.
- Construction sector has been in the TOP3 amount for waste.
- Its recycling rate was 40% in the 1990s.
- Reached 80% in 2000 and hit 90% in the next year
- Slowly increased until present day



Compare with Euro countries

- Analyzed Eurostats data as well as JAPAN's domestic statistic data
- Only JAPAN reach 90% recycling rate From 2004 to 2014
- The Graph exclude household data , Land Filling data and non-energy recovering inclination data original Eurostats' data included



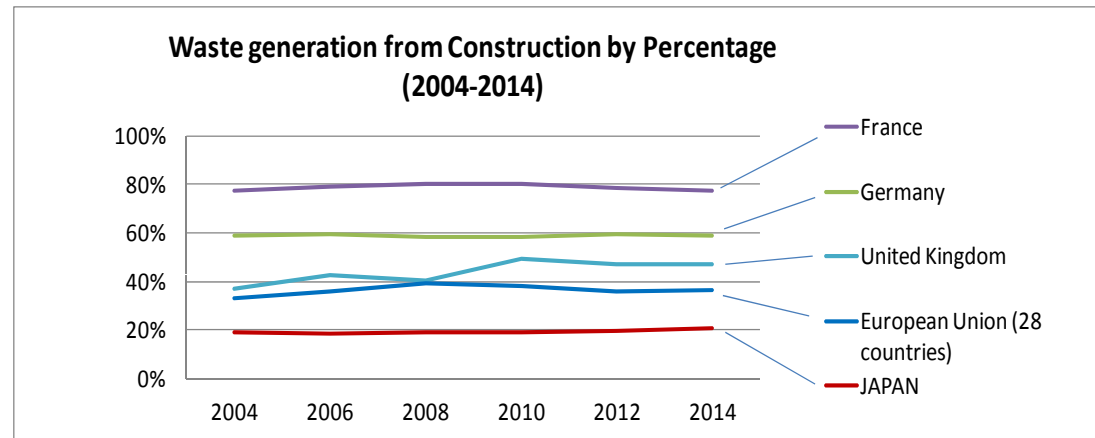
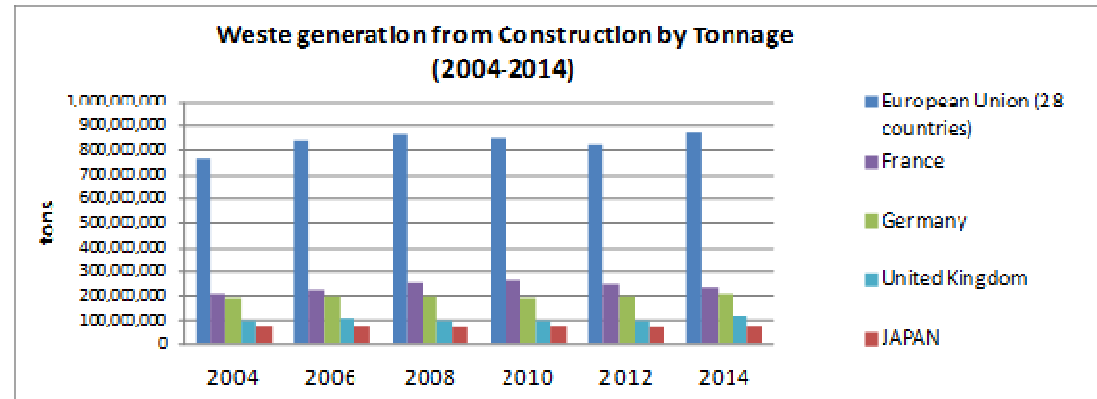
Focusing on Construction Sector

EUs

- generate More than 100Mt of waste
- 40% of whole industries

JAPAN

- generate Less than 100Mt of waste
- 20% of whole industries

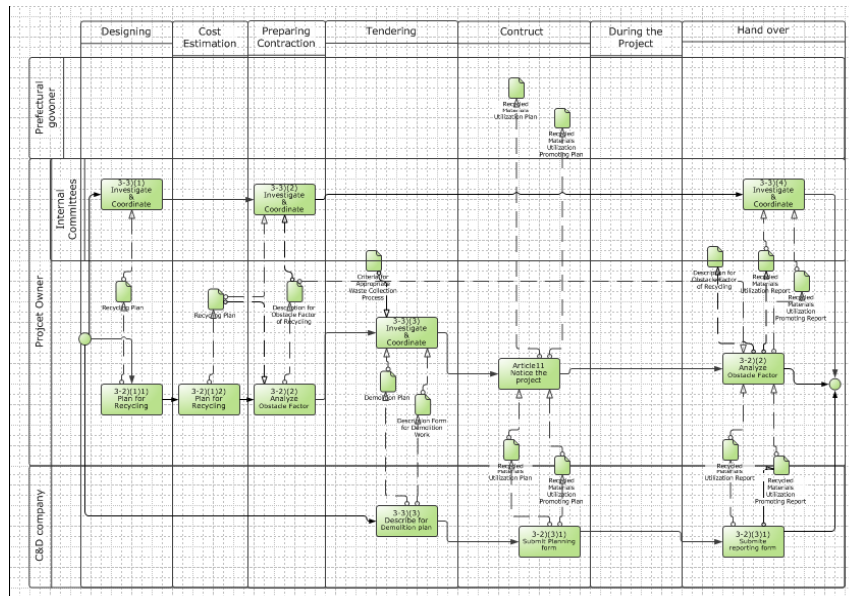


Great efforts by People

- People involved in recycling policies
- Including
 - pubic construction project owners
 - construction & demolition companies
 - recycling plants.
- A lot of works must've been done.

Information Management

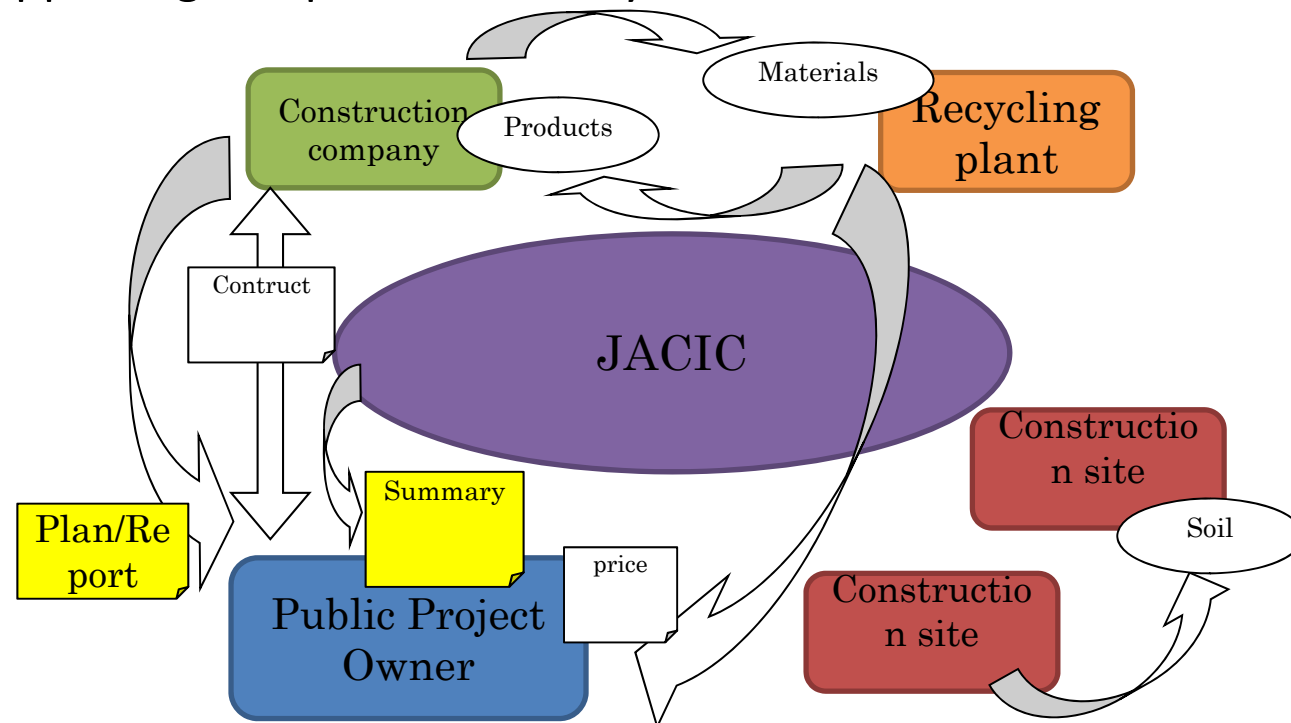
- One of important practices.
- MLIT (Ministry of Land, Infrastructure, Transport and Tourism) conducts ...
GUIDELINES, for the procedure of recycling plan and report.
CENSUS, nation wide survey ,for every 4 years.
- We(JACIC) 've been helping their Information Management.



year	CENSUS
1990 (H2)	1 st
1995 (H7)	2 nd
2000 (H12)	3 rd
2005 (H17)	4 th
2008 (H20)	5 th
2012 (H24)	6 th

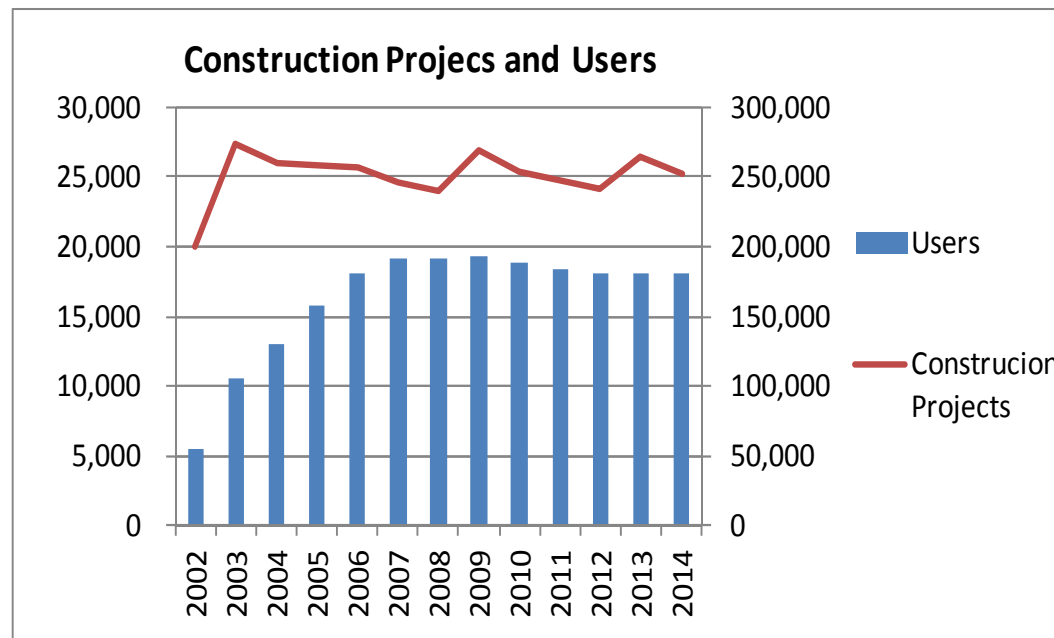
Our service

- Construction companies are required to submit Plan/Report for recycling .
- Public project owners can summarize whole recycling data.
- Also shearing price of recycling fees ,S/D of soil among construction sites.
- We've been supporting this process for 15 years.
- However



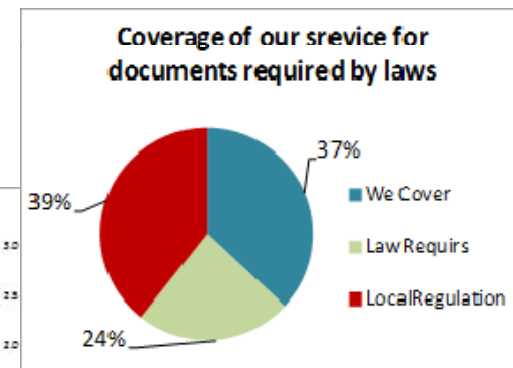
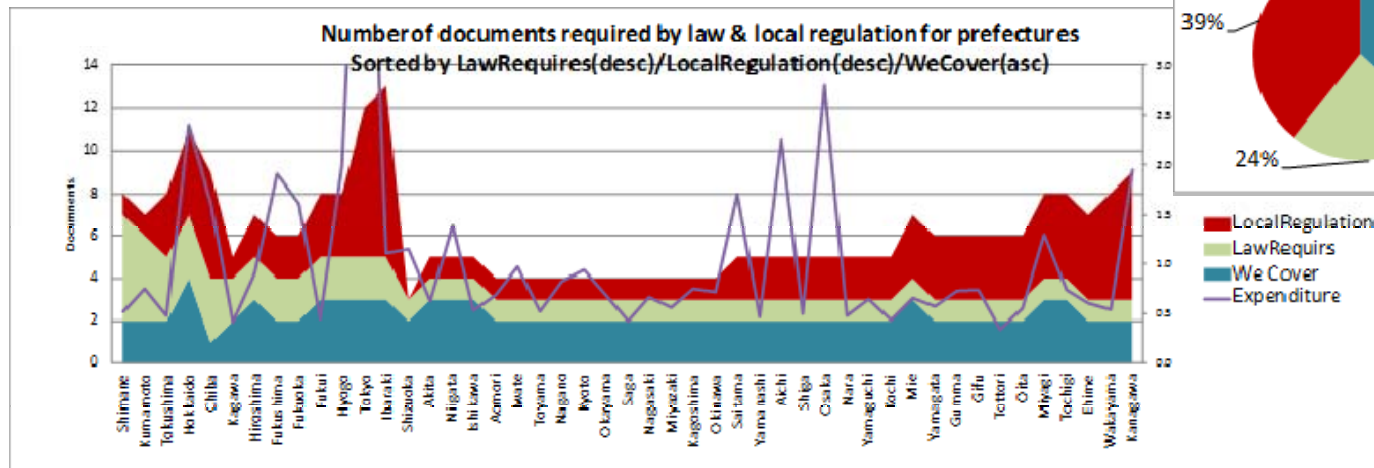
Not enough widespread support

- Users remain stable or decreased.
- We haven't yet to cover every aspects of People involved.
- Especially local governments, municipals.
- And private construction project owners.
- Why?



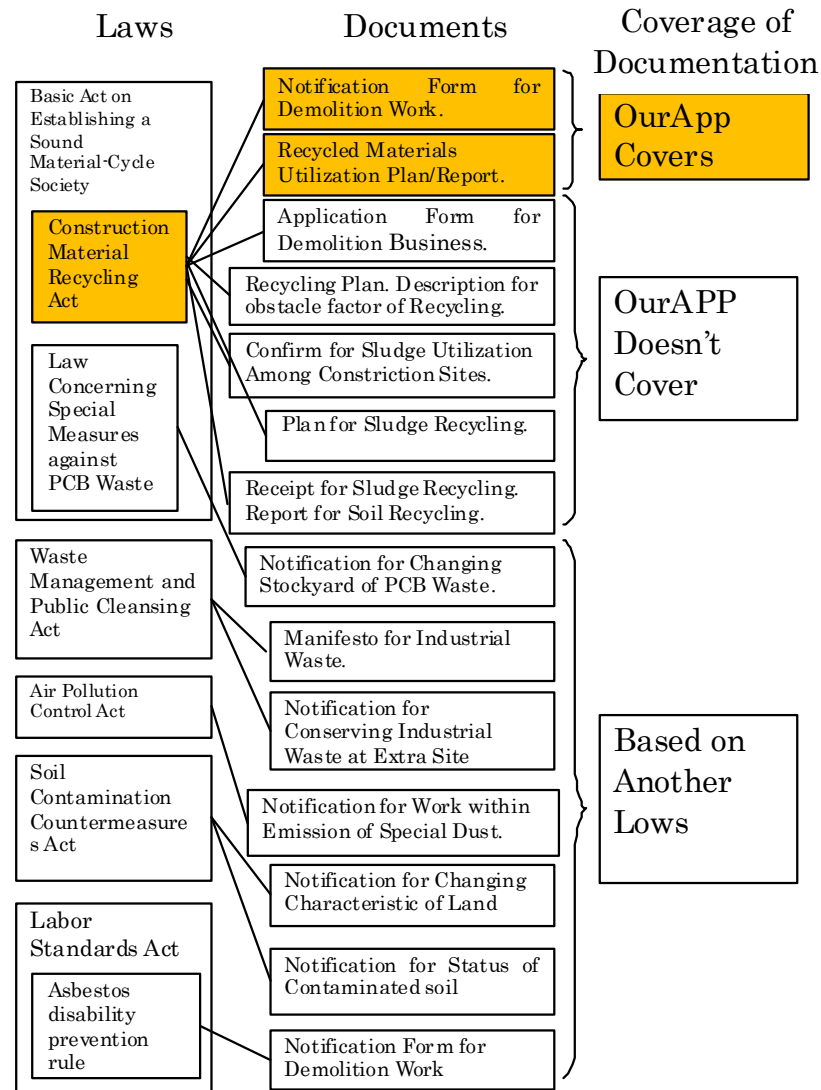
Same thing happen to your country?

- Analyzed legal requirement for documentation in JAPAN
- All prefectures require at least three types of document as laws requires
- 2/3 prefectures require **additional document as local regulation**
- Only eight prefectures require more than five types of document based on laws require
- People must've had burden work



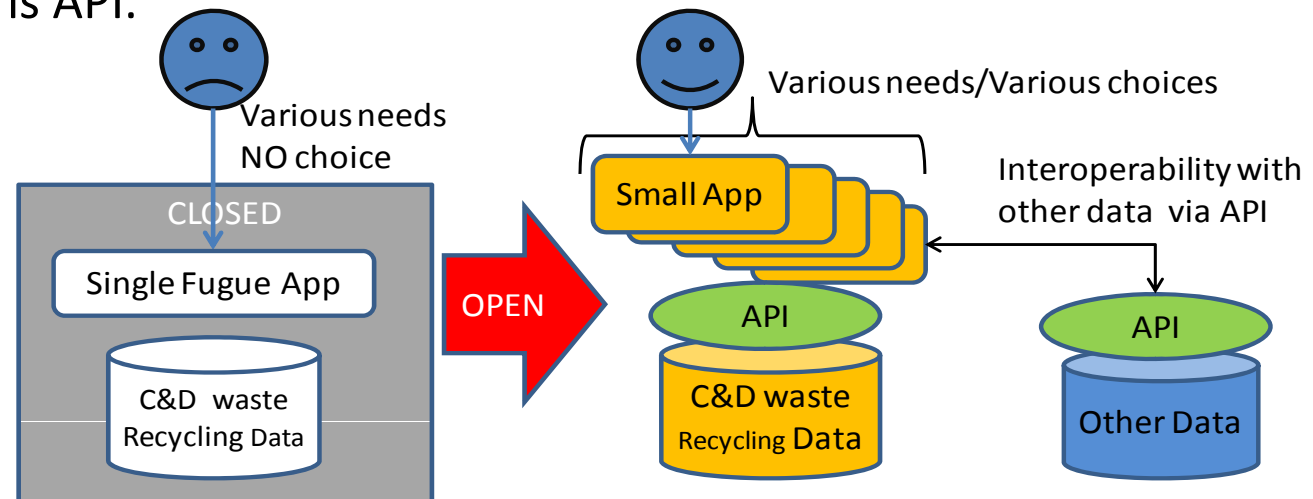
Limited coverage

- We only cover a small part of `Construction Material Recycling Act`.
- People is engaged in other kind of law policies, also additional local regulation.
- Our App can't have been adequate for their tasks.
- Should be addressed an solved



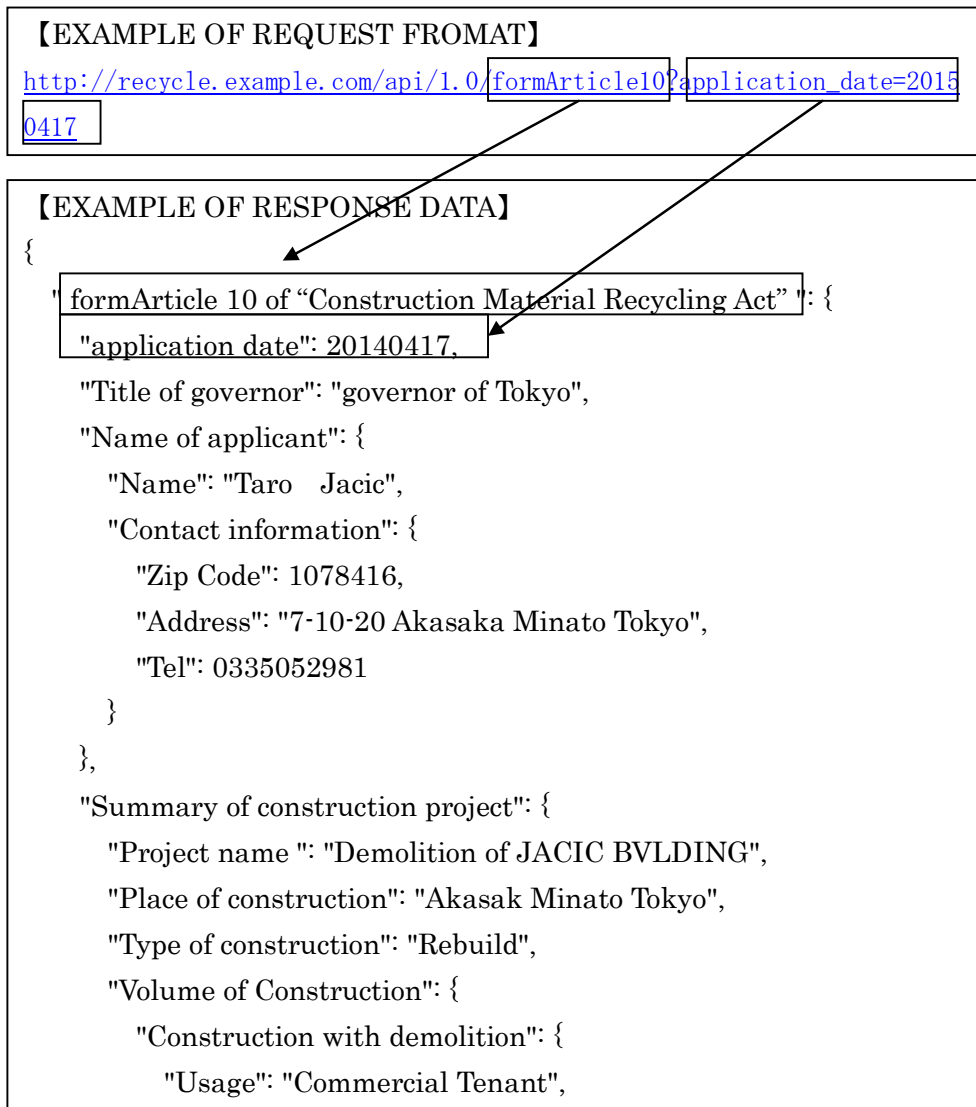
Open data strategy

- C&D waste recycling data is closed by our App.
- End-users have NO choice but to use exclusively via our App.
- They have various recycling duties, further needs for other procedure.
- Open data strategy
 - Enables 3rd parties can access to C&D waste recycling data.
 - These 3rd parties can develop new App for various needs quickly.
- Key technology is API.



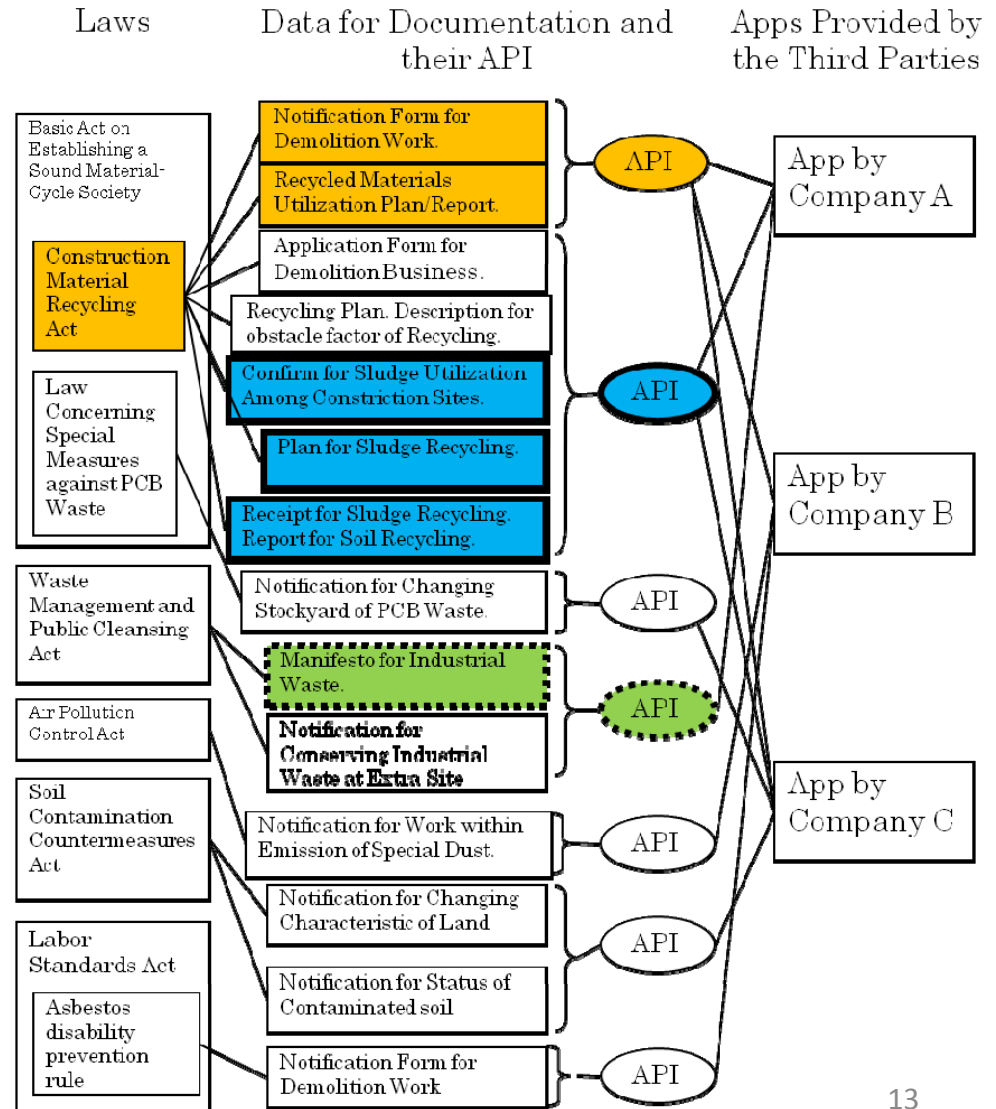
Outline of API

- Web service API is a web based remote computing mechanism.
- Using HTTP request and response, like netsurfing with web browser.
- Internally, App calls API as HTTP request to fetch data.
- Then, App receives data as HTTP response.



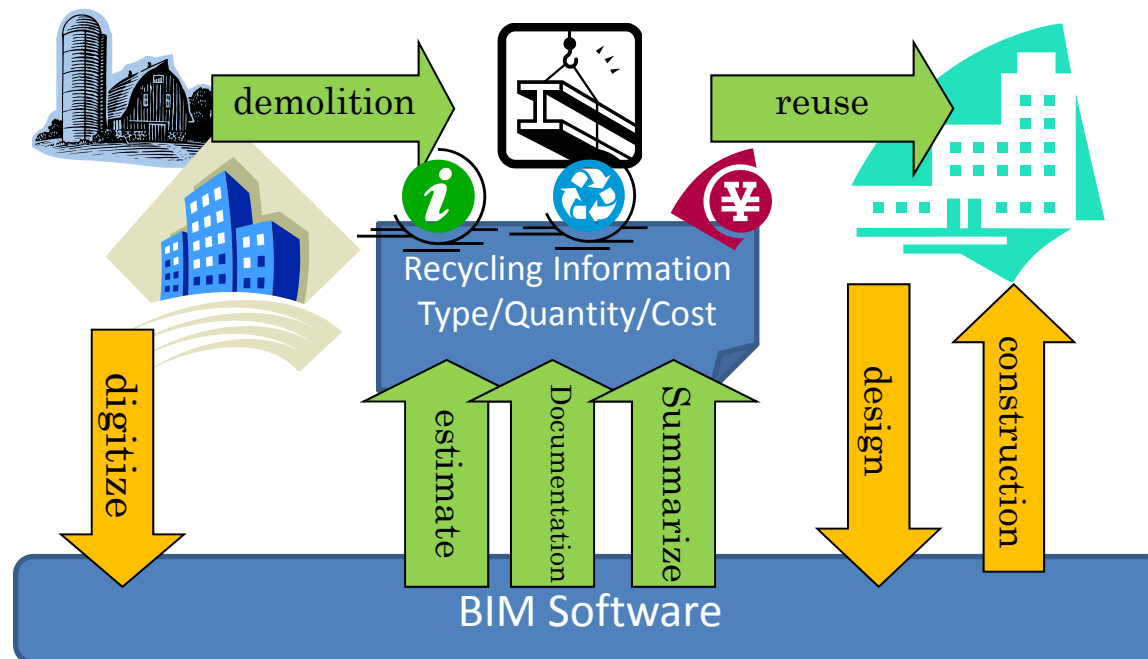
Over the wall of policies

- 3rd parties can develop new Apps by using API for their customer's job.
- Not only using Our API but also using other policy based APIs.
- New services will be launched little by little.
- All documentations or data analysis tasks will be supported by combining data from these APIs.



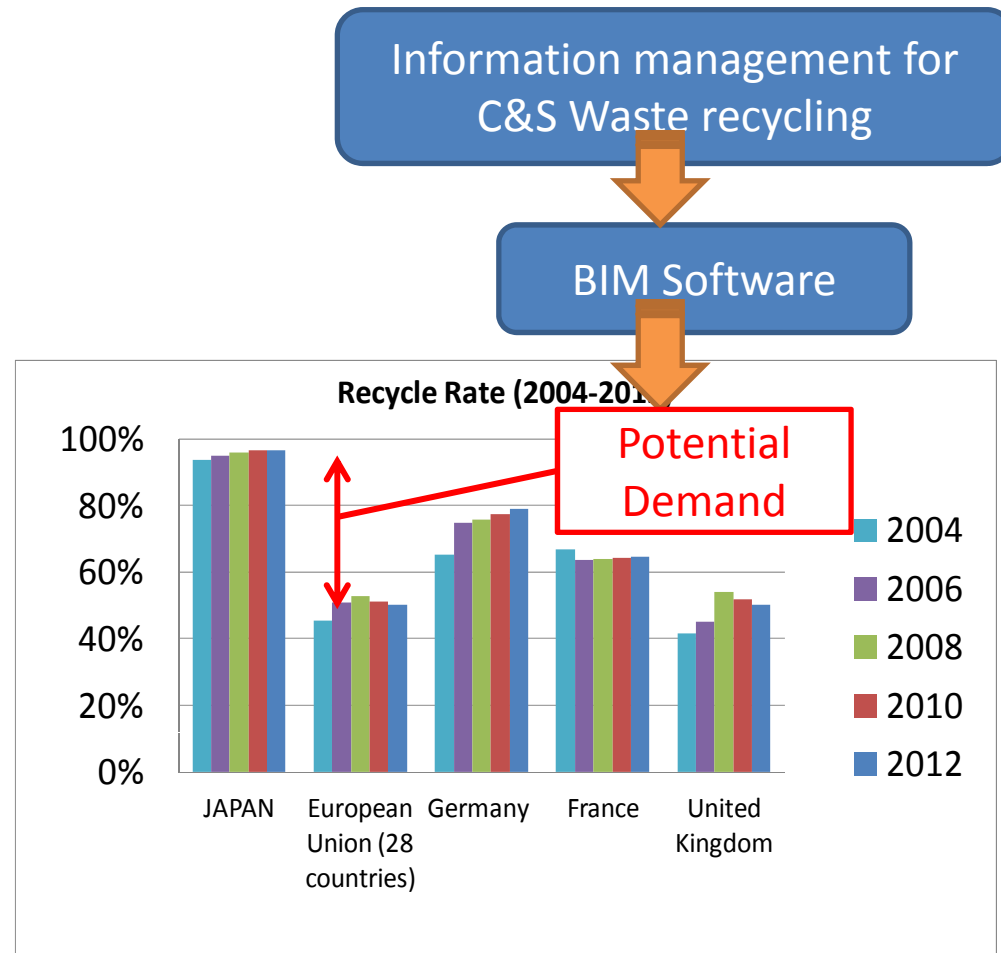
BIM for C&D waste recycling

- BIM is 3D-CAD based software set for whole life cycle of building
- BIM is progressively being used in the world currently.
- For C&D waste recycling, most important information are Volume&Weight.
- BIM software have data items to describe V&W for each materials.
- BIM software is easy to quantify C&D waste.



For global contribution

- Burden work is needed for high level information management.
- JPAN's information management for C&D waste recycling will bring great benefit through BIM.



Thank you