ENI PoC #11: Progress Update

Rapporteur: (China Telecom)
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Co-Rapporteur:
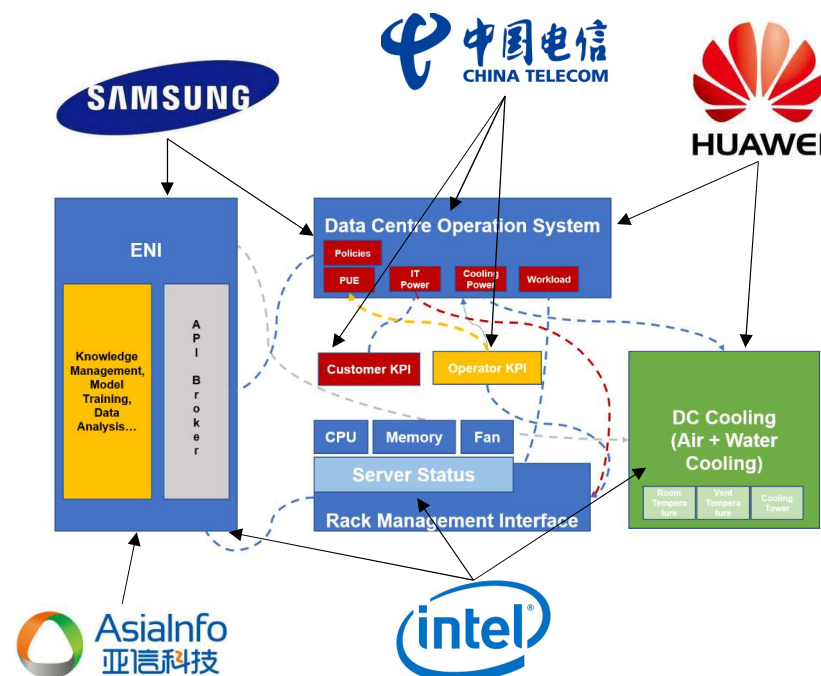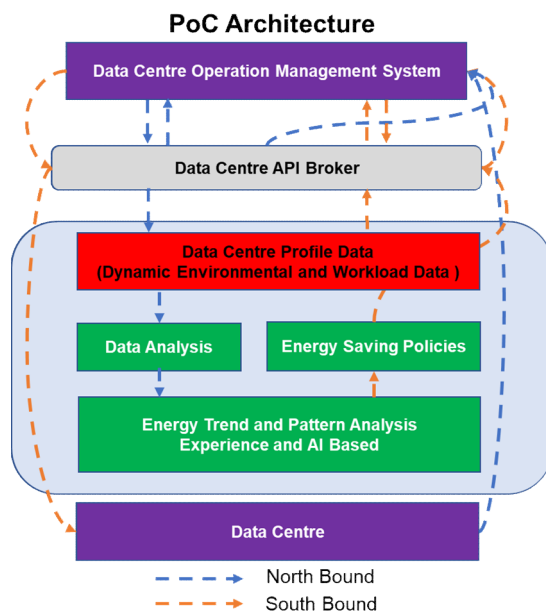Haining Wang (Intel), Lilei Wang (Asiainfo), Yue Wang(Samsung), Aldo Artigiani (Huawei)

ENI PoC project #11: Intelligent Energy Management of DC

PoC Goals and PoC member task

Host/Team Leader:

Team members:

PoC Architecture

- ✓ **PoC Project Goal #1:** DC profile analysis. Demonstrate the use of AI-based methods to analyze energy related data, e.g. DC dynamic environment and IT workload data etc..
- ✓ **PoC Project Goal #2:** Policy-based DC Energy Management. Demonstrate the use of AI algorithms to enable policy-based energy management..

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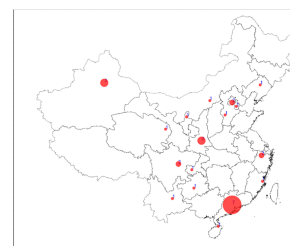# ENI PoC project #11: Intelligent Energy Management of DC

DC test trial progress
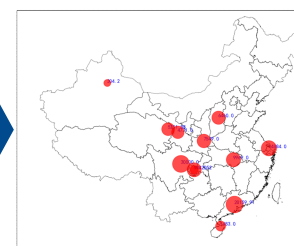

More IDC AI Specification Published

Task Plan

Stage 1 2020 → Stage 2 2020

**Geographical Distribution of Test trial Sites**

Test Trial Prep. → By 15th September 2020, second round of IDC trial application started, with further 411 IDC sites from 20 cities applied, selection process started in early August.
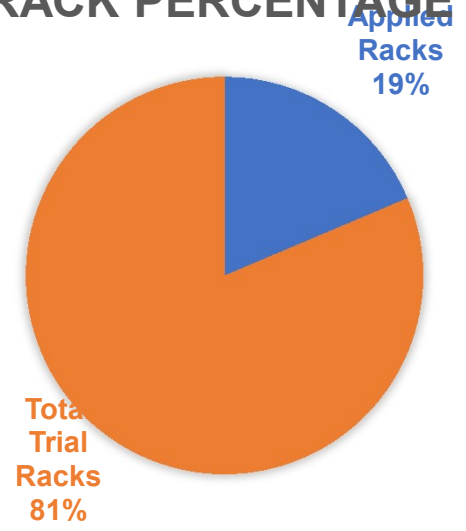
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21 cities applied, **411** IDC in total, air cooled **170**, water cooled **231**, combine cooled **17**, racks total **55882**, number of air condition manufacture **13.**
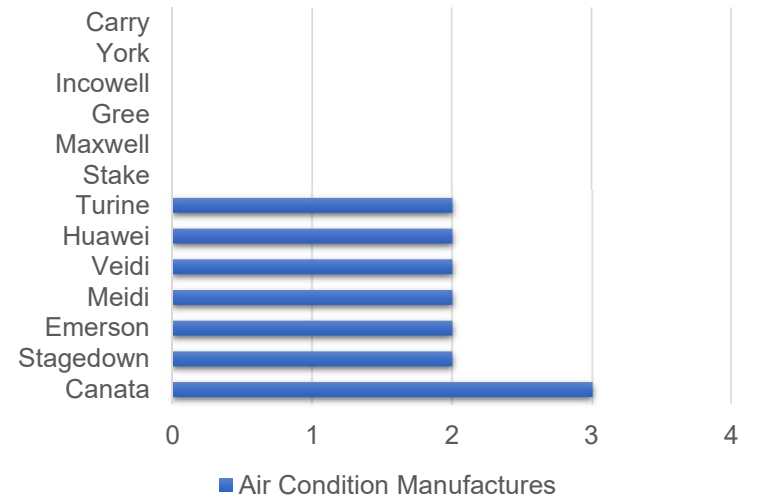
IDC Types

RACK PERCENTAGE

Applied Racks 19%

Total Trial Racks 81%
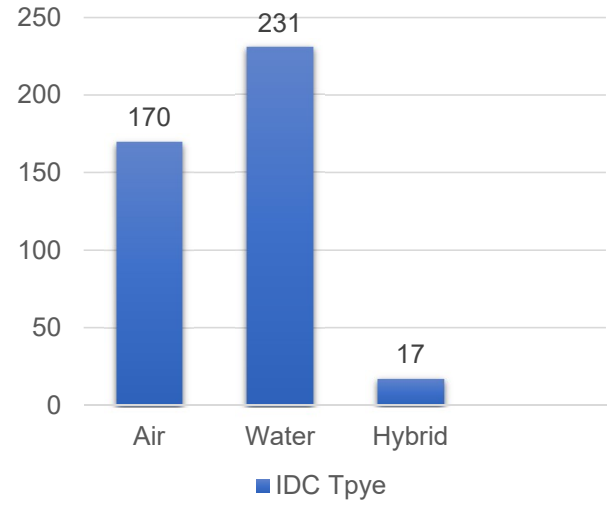
Air Condition Manufactures

IDC Selection Process

PUE

Data Quality

IT

Cooling

Ranking

Racks 20371
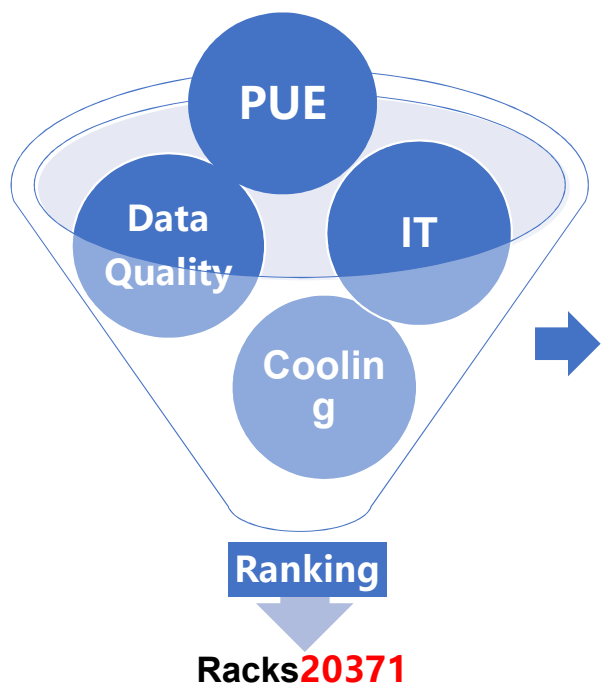
City	IDC Site	IDCs	AIR	Water	Hybrid	Racks
A	1	1		1		70
B	1	1			1	222
C	1	17		17		1008
D	1	14		14		2090
E	2	4		4		1693
F	1	4		4		742
G	1	3		3		536
H	1	11		11		849
I	2	31		31		3791
J	6	26	14	12		3920
K	1	33	2	31		5450
Total	18	145	16	128	1	20371

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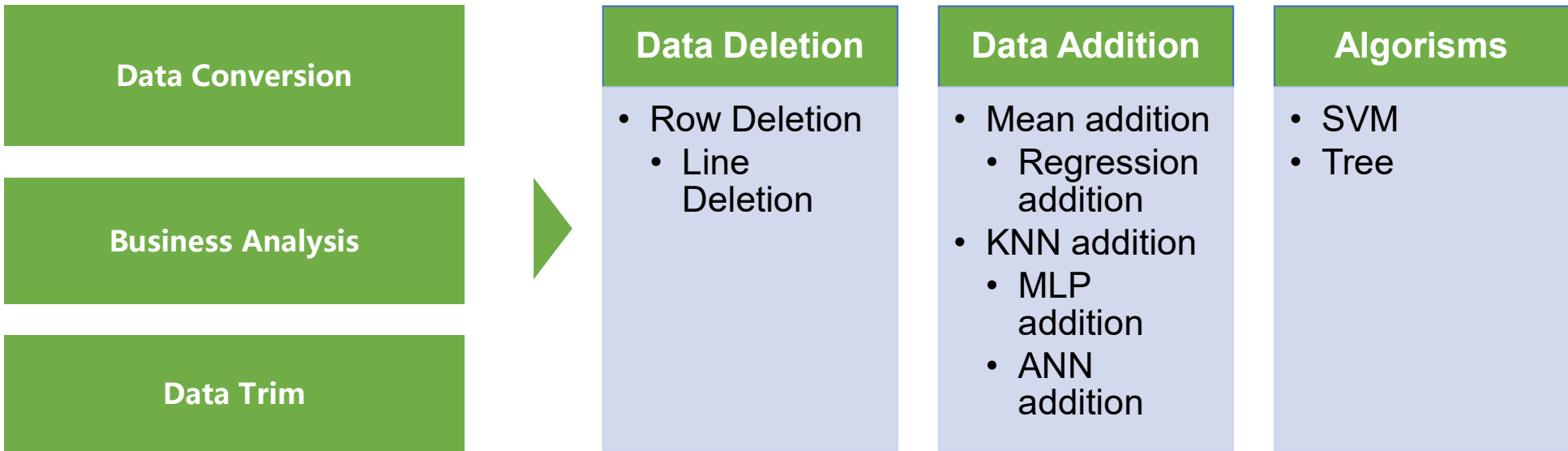
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Data Format → Data Collect → Storage → Data Mining → Analysis → Presentation
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Data Conversion		Data Deletion	Data Addition	Algorisms
Data Conversion		**Data Deletion**	**Data Addition**	**Algorisms**
Business Analysis	→	• Row Deletion • Line Deletion	• Mean addition • Regression addition • KNN addition • MLP addition • ANN addition	• SVM • Tree
Data Trim				

Intel DCM Approach

Huawei iCooling Approach
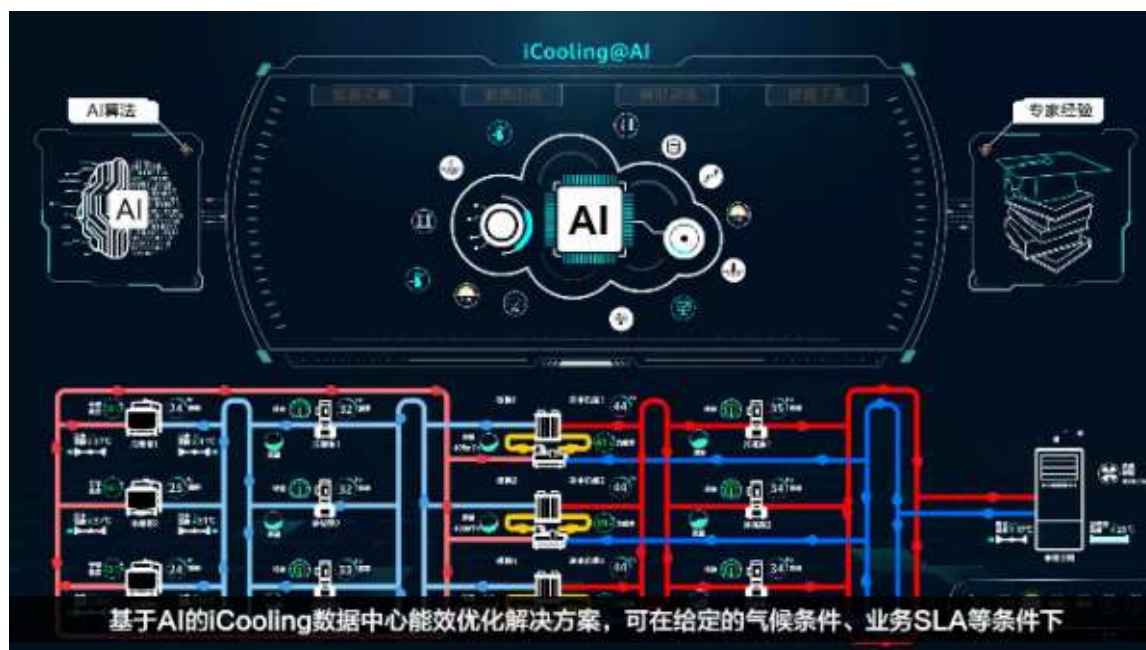
Samsung & Asiainfo Approach

Samsung – Use Case
Asiainfo – AI Model

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PoC Milestones and Current Progress

Current →

Target →

PoC Milestone	Stages/Milestone description	Target Date	Additional Info
P.S	PoC project submission	03/2020	Presentation during #ENI 13
P.TP.1	PoC Test Plan 1	12/2020	Initial testbed up and running
P.D1	PoC Demo 1	03/2021	Webinar demo at the ENI#18 plenary meeting
P.D2	PoC Demo 2	06/2021	Demo at shanghai MWC 2021
P.D3	PoC Demo 3	TBD	Demo at Intel AI summit
P.C1	PoC Expected Contribution 1	07/2021	Contributions to ENI use case
P.C2	PoC Expected Contribution 2	07/2021	Contributions to ENI requirement
P.C3	PoC Expected Contribution 4	09/2021	Contributions to ENI terminology
P.C4	PoC Expected Contribution 5	09/2021	Contributions to ENI data mechanism
P.R	PoC Report	09/2021	PoC-Project-End Feedback
P.E	PoC Project End	12/2021	Presented to ISG ENI for information
Note; The deadlines may subject to change according to covid-19 situation.			