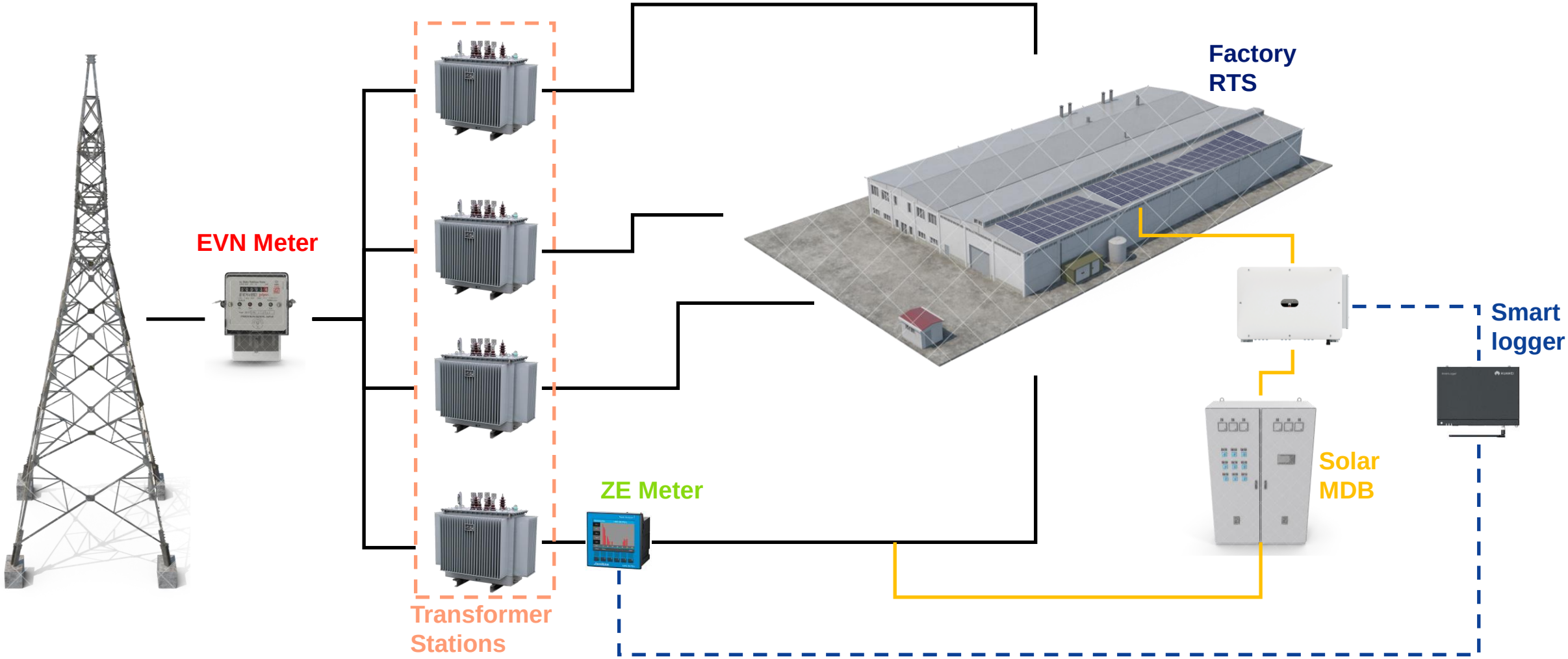
TRANSFORMER SUMMATION SOLUTIONS FOR SOLAR SYSTEM OPTIMIZATION

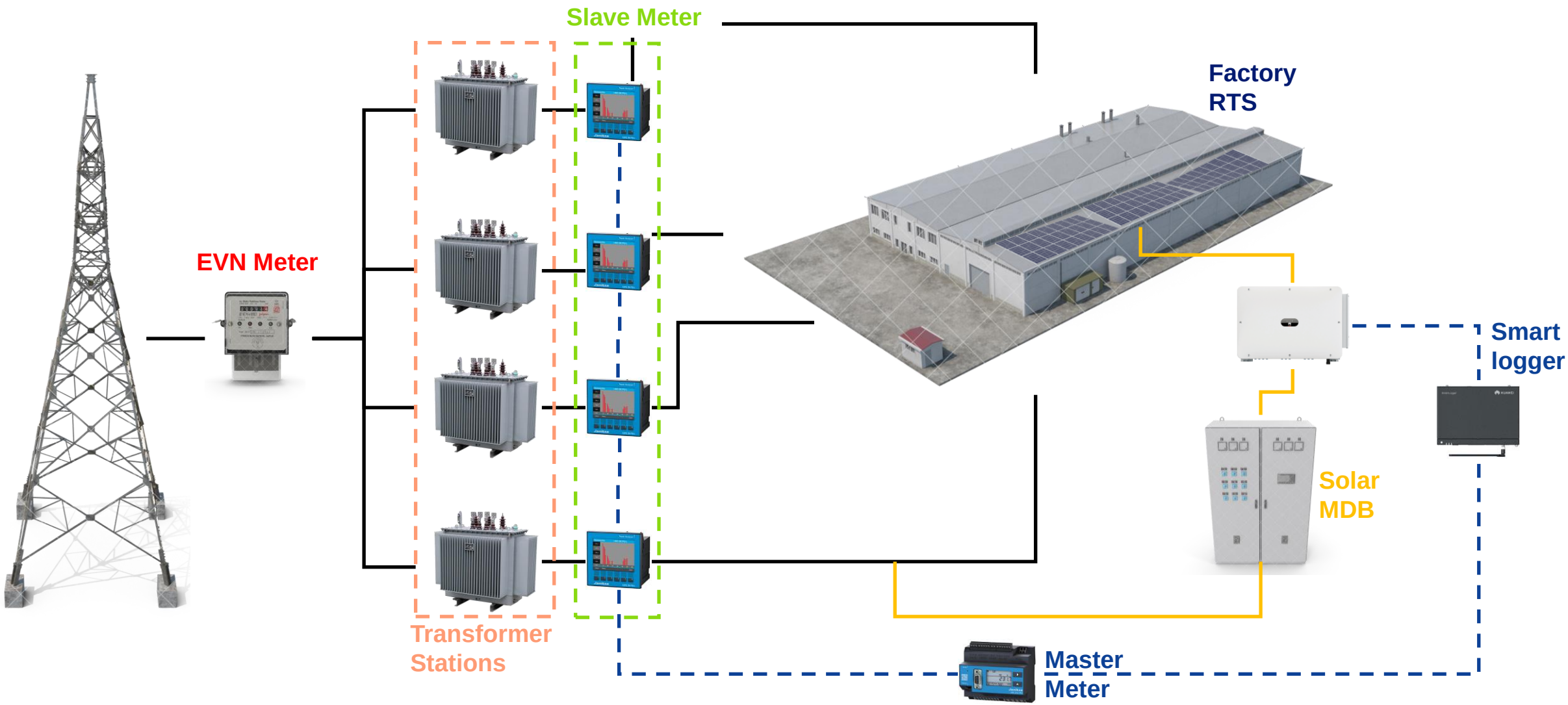
PLC SOLUTION

1. INTRODUCTION
2. CHALLENGES IN METER SUMMATION
3. PROPOSED SOLUTION
4. BENEFITS AND FEATURES
5. IMPLEMENTATION PROCESS
6. CONCLUSION AND NEXT STEPS

1. INTRODUCTION Typical Solar C&I project diagram



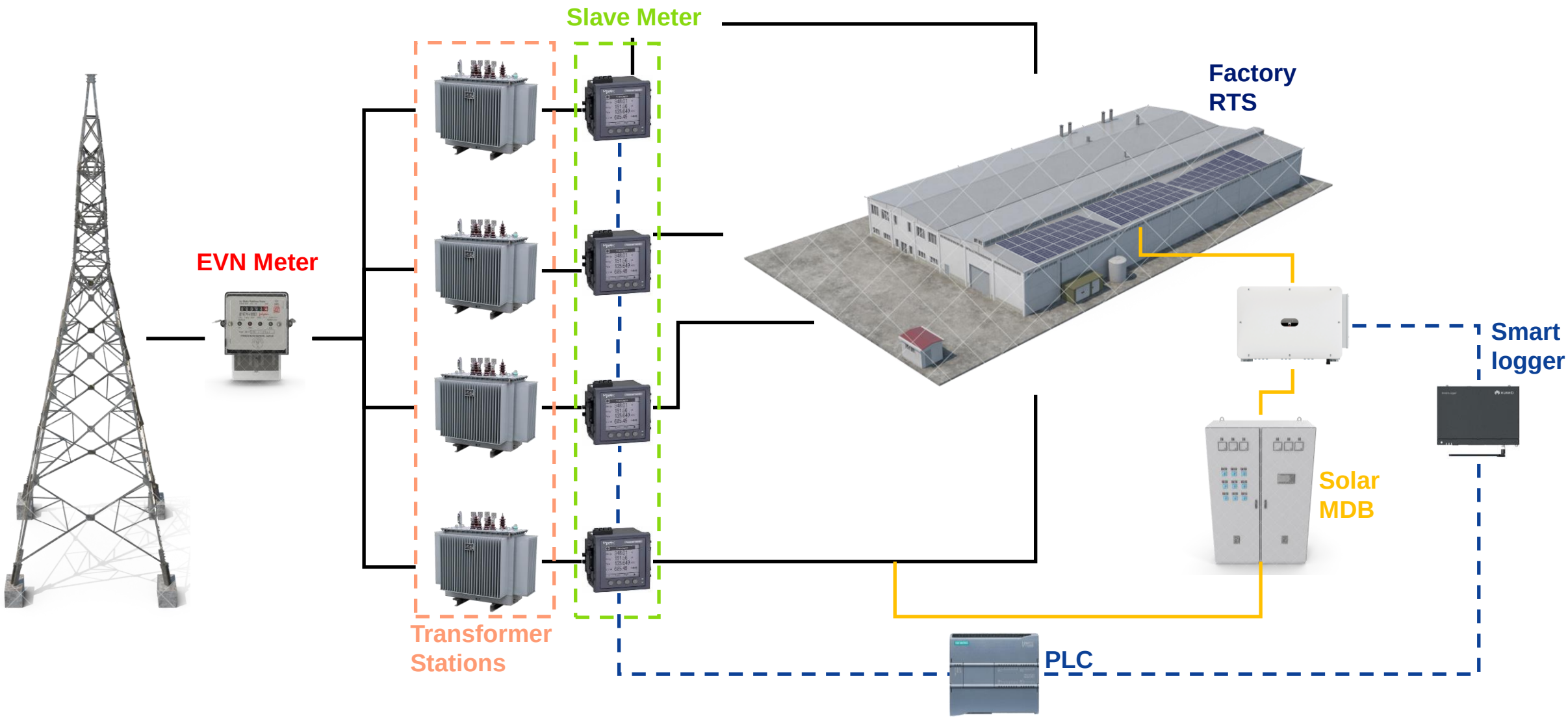
1. INTRODUCTION Typical Solar C&I project diagram – Meter SUM



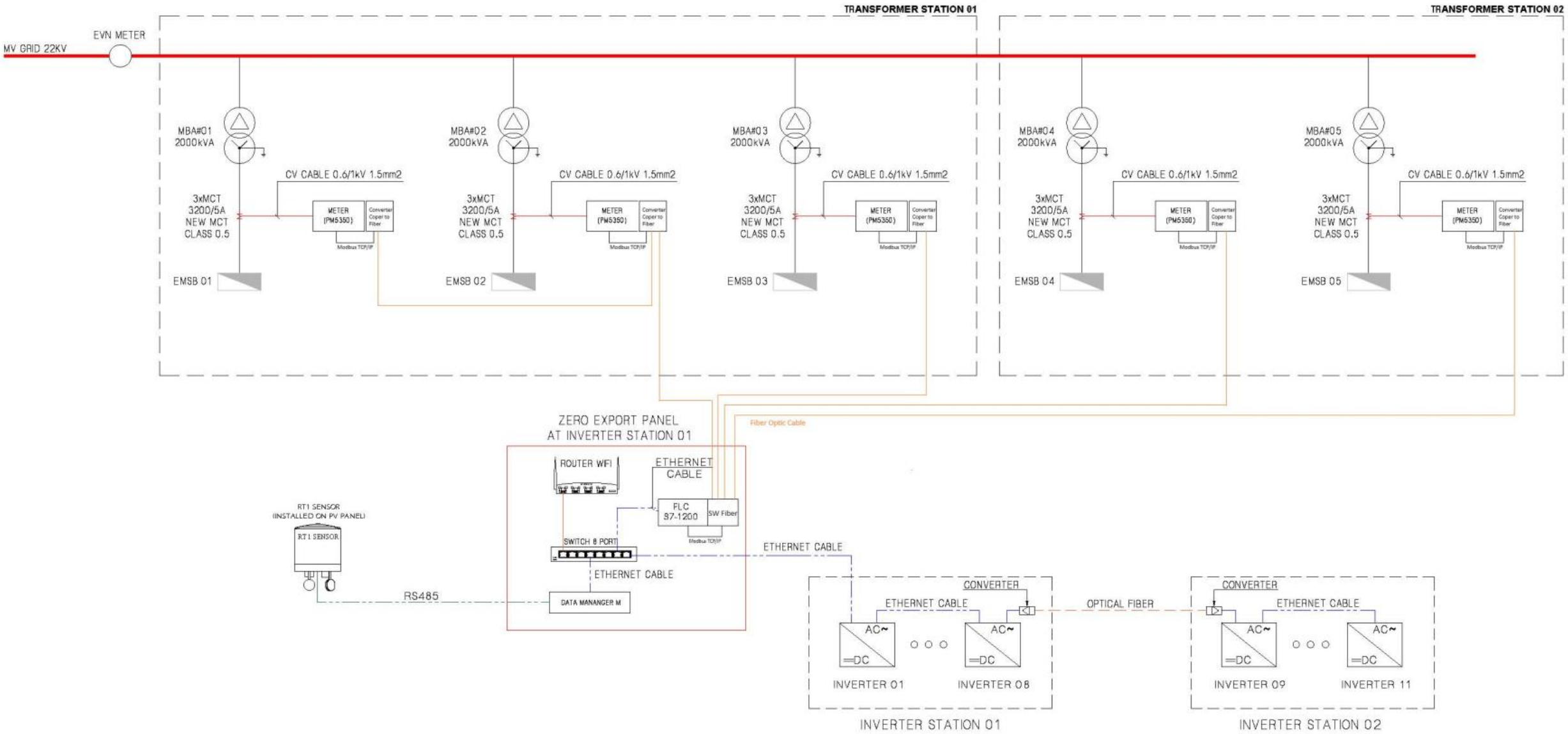
2. CHALLENGES IN METER SUMMATION

Criteria	CT SUM	METER SUM
Distance	Max 50m Between Transformer CT and Summation CT	Max 1000m for RS485 Unlimited for fiber optic cable
Number of Transformer	Max 5 Transformers	Unlimited
Installation	Ensure correct order of phases	Ensure correct order of phases
Voltage Accuracy	A specific transformer Voltage	All transformer Voltage
Total consumption	Not accurate Only 1 transformer voltage collected	Incalculable The total instantaneous power send back to logger only

3. PROPOSED SOLUTION



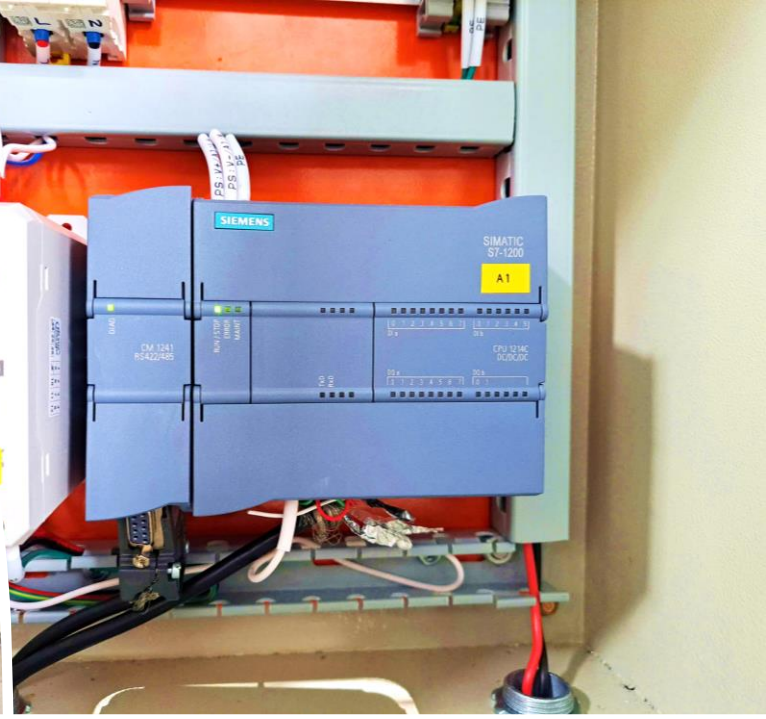
3. PROPOSED SOLUTION



4. BENEFITS AND FEATURES

Criteria	METER SUM by PLC
Distance	Max 1000m for RS485 Unlimited for fiber optic cable
Number of Transformer	Unlimited
Installation	Ensure correct order of phases
Voltage Accuracy	All transformer Voltage
Total consumption	Calculable The total energy send back to logger

5. IMPLEMENTATION PROCESS



SkyX Solar

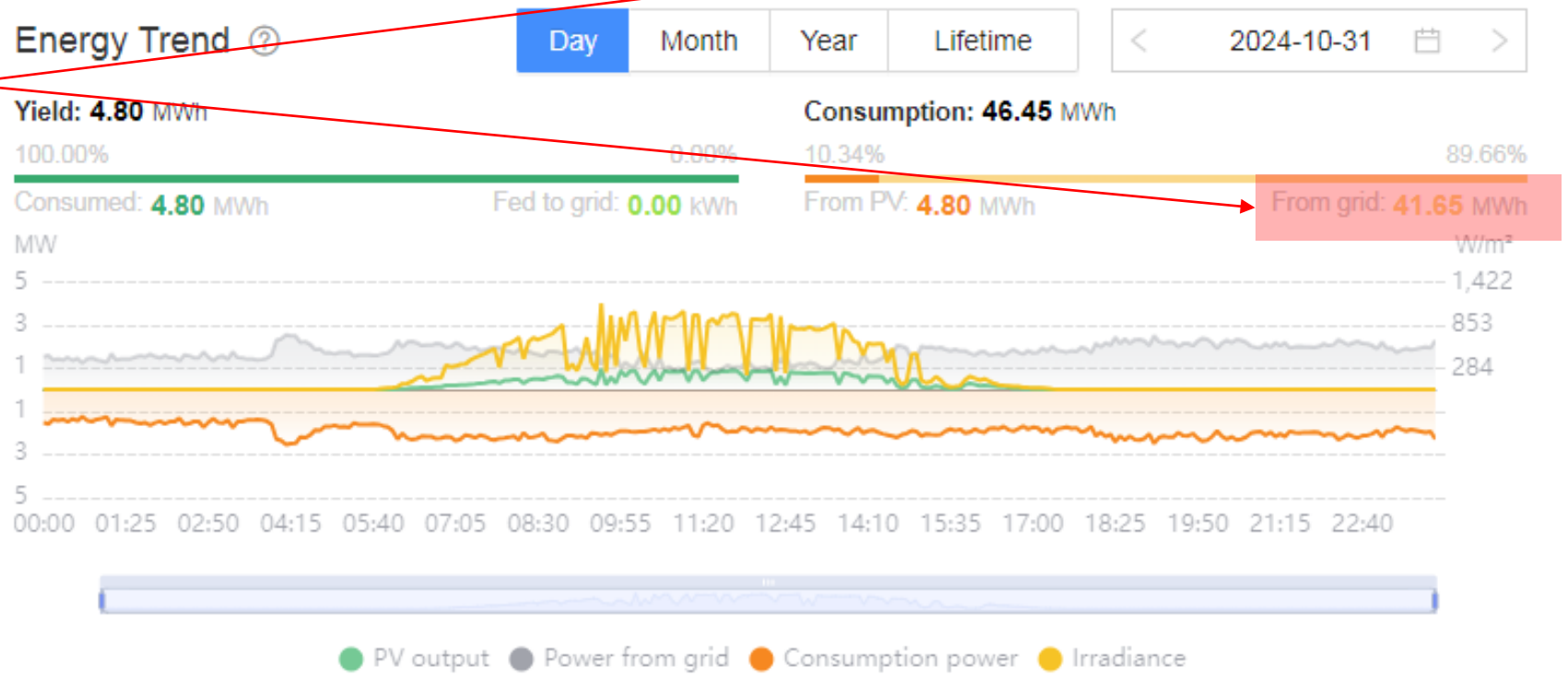
5. IMPLEMENTATION PROCESS

Data from EVN platform

29	Ngày 31/10/2024	Bình thường	4.776.638,70	22.980,50
		Cao điểm	1.775.545,70	8.655,20
		Thấp điểm	2.124.211,20	10.192,10
		Vô công	3.318.165,60	0,00
Tổng				41.827,80

Discrepancy between primary/ secondary of Transformer

Data from Solar flatform



6. CONCLUSION AND NEXT STEPS

CT SUM	METER SUM	METER SUM by PLC
+ Cannot apply if Transformer stations are too far away + Only 1 transformer voltage collected	+ Uncalculatable the total consumption Load (kWh) of all Transformer stations + Limit several operations due to the existing functionality of the device	+ Calculatable the total consumption Load (kWh) of all Transformer stations + Can be used for energy management / Mini SCADA

EDF renouvelables

Merci