Bester

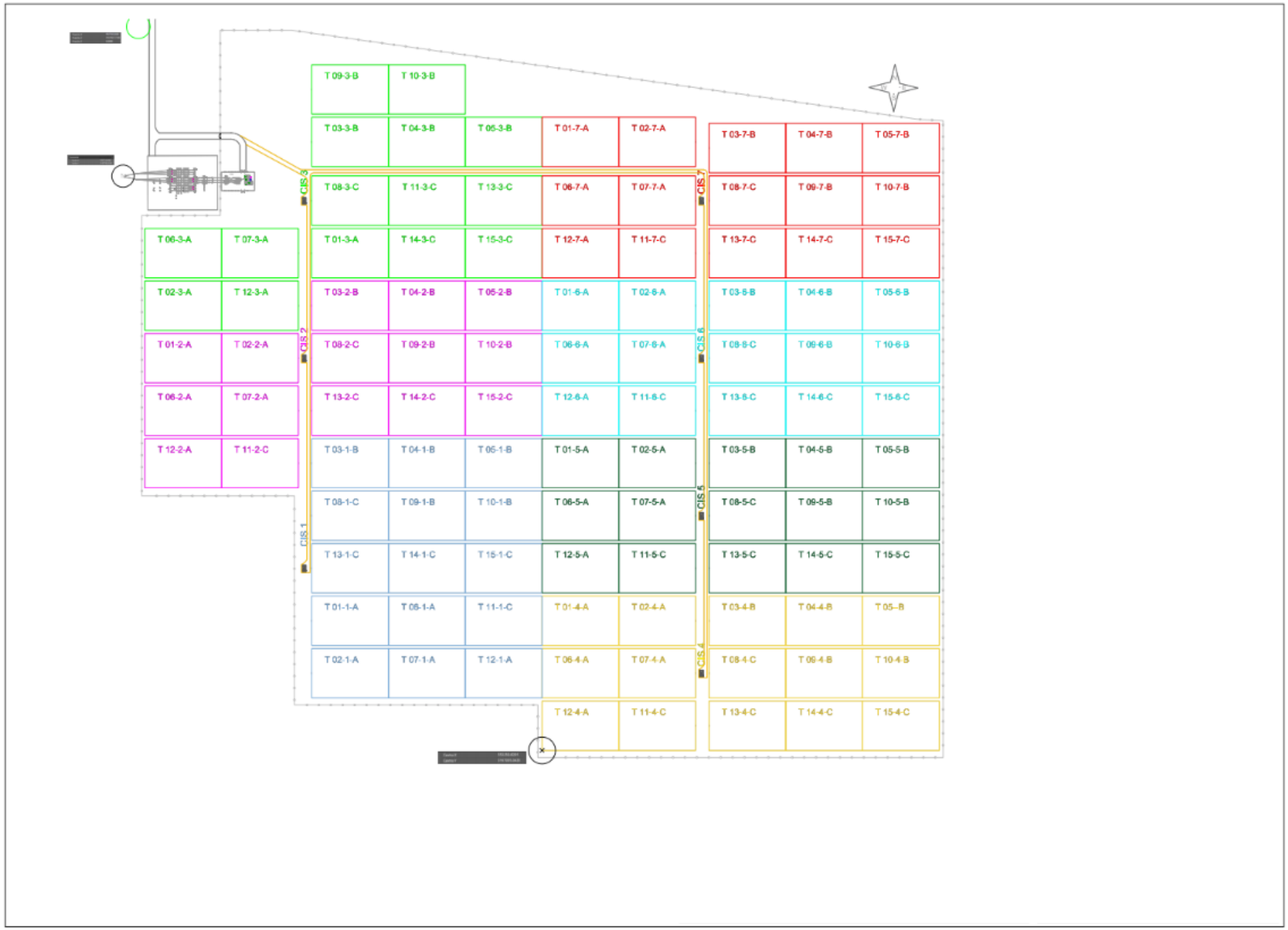
Building a sustainable world

EPC

Engineering, Procurement and Construction

MAP OF A PV SOLAR PLANT

1. **SOLAR AREA**
2. **STRINGBOXES**
3. **INVERTER STATIONS**
4. **INTERNAL EVACUATION LINE**
5. **SUBSTATION (BOOSTER)**
6. **TRANSMISSION LINE**
7. **INTERCONNECTION POINT**



MAP OF A PV SOLAR PLANT

1. SOLAR AREA

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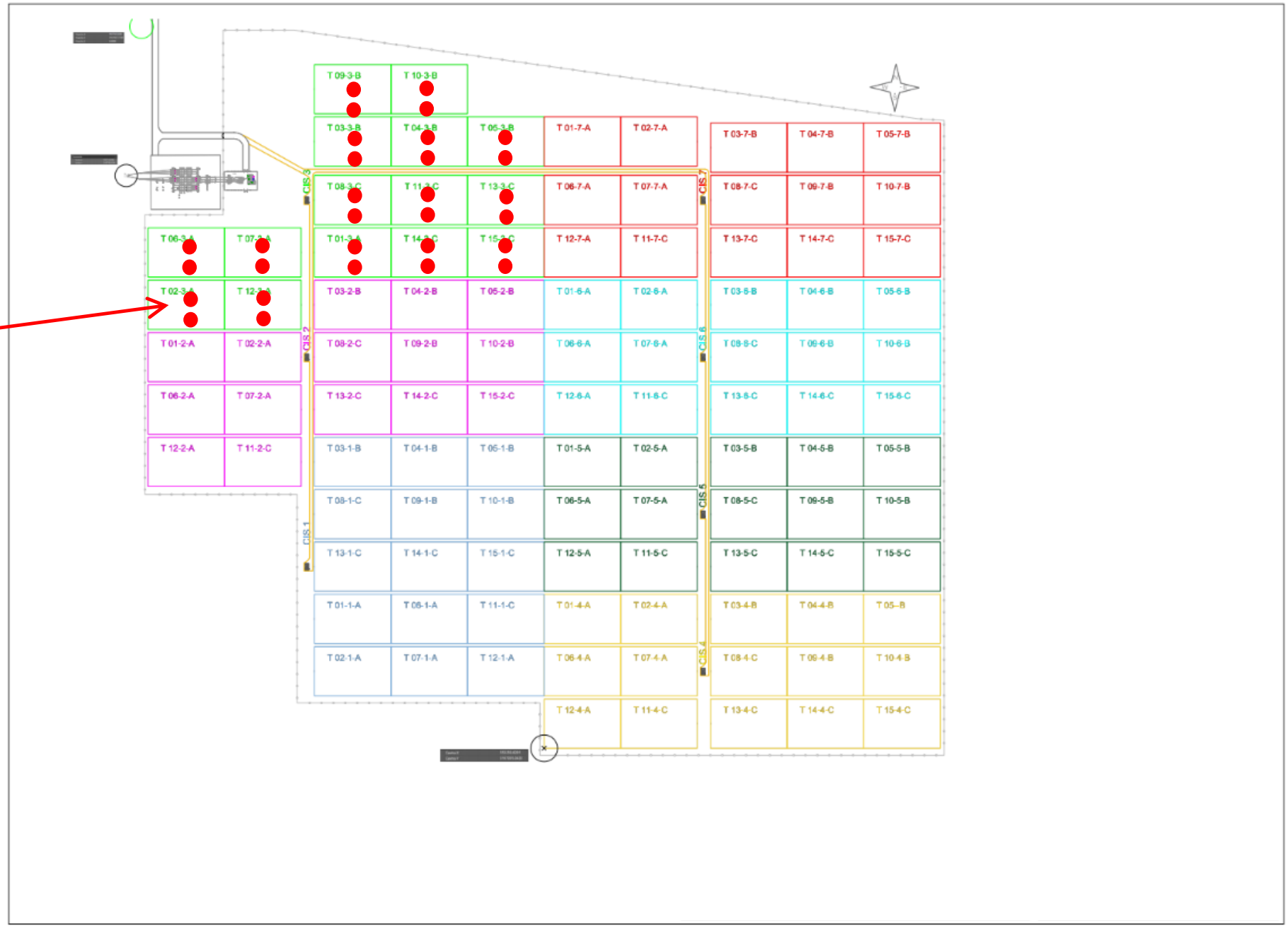
1. SOLAR AREA

MAP OF A PV SOLAR PLANT

2. STRINGBOXES



MAP OF A PV SOLAR PLANT

2. STRINGBOXES

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3. INVERTER STATIONS

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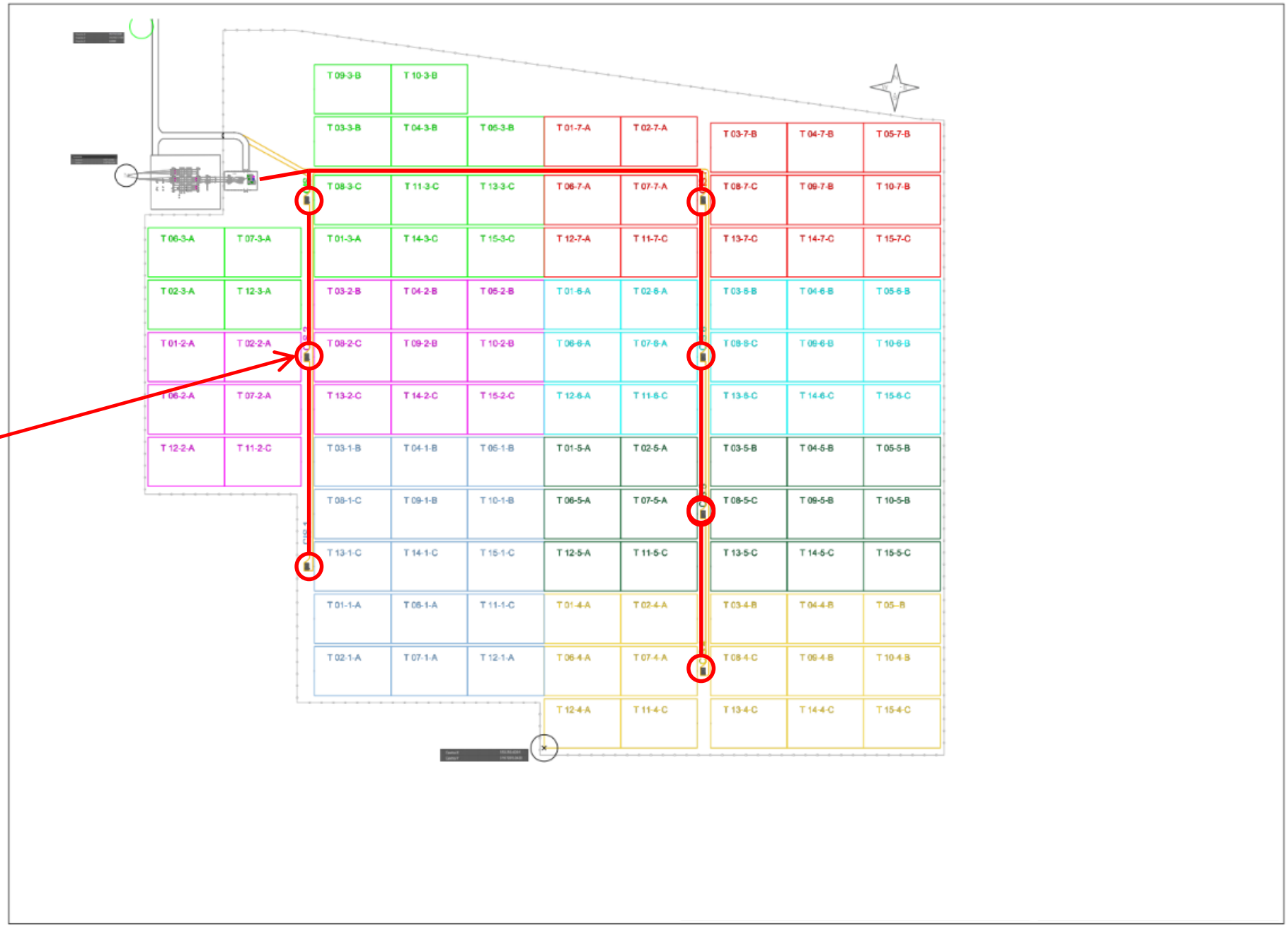
3. INVERTER STATIONS

MAP OF A PV SOLAR PLANT

4. INTERNAL EVACUATION LINE



MAP OF A PV SOLAR PLANT

4. INTERNAL EVACUATION LINE

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5. SUBSTATION (BOOSTER)

MAP OF A PV SOLAR PLANT

6. TRANSMISSION LINE

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6. TRANSMISSION LINE

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7. INTERCONNECTION POINT

MAP OF A PV SOLAR PLANT

7. INTERCONNECTION POINT

MAP OF A PV SOLAR PLANT

1. **SOLAR AREA**
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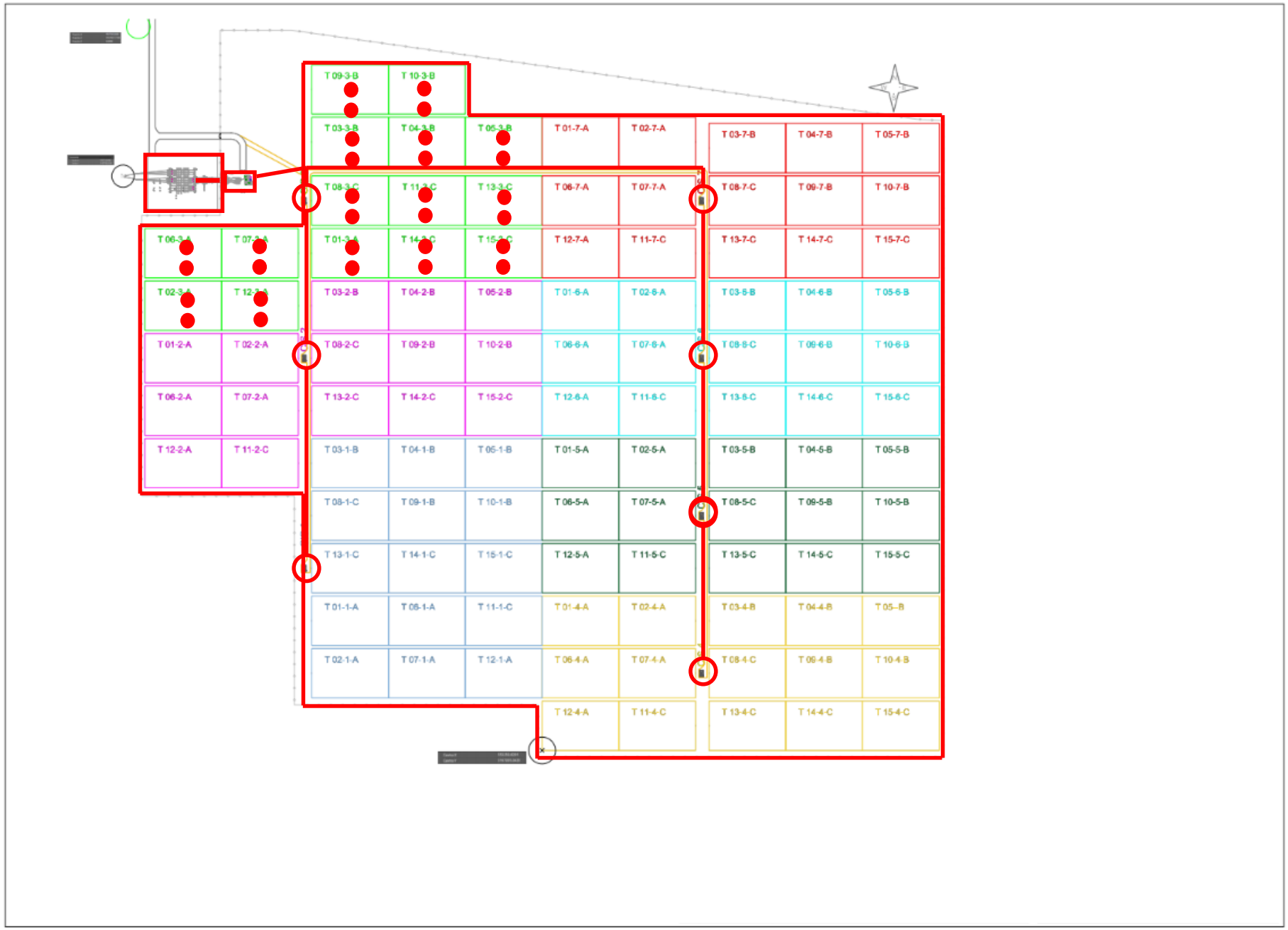

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RELEVANT COMPONENTS OF A PV INSTALLATION

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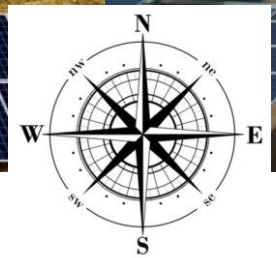
FIXED STRUCTURE

Simple: without mechanisms /Cheaper and easy O&M

SINGLE-AXIS TRACKING STRUCTURE

More complex mechanism / Expensive but more production



RELEVANT COMPONENTS OF A PV INSTALLATION

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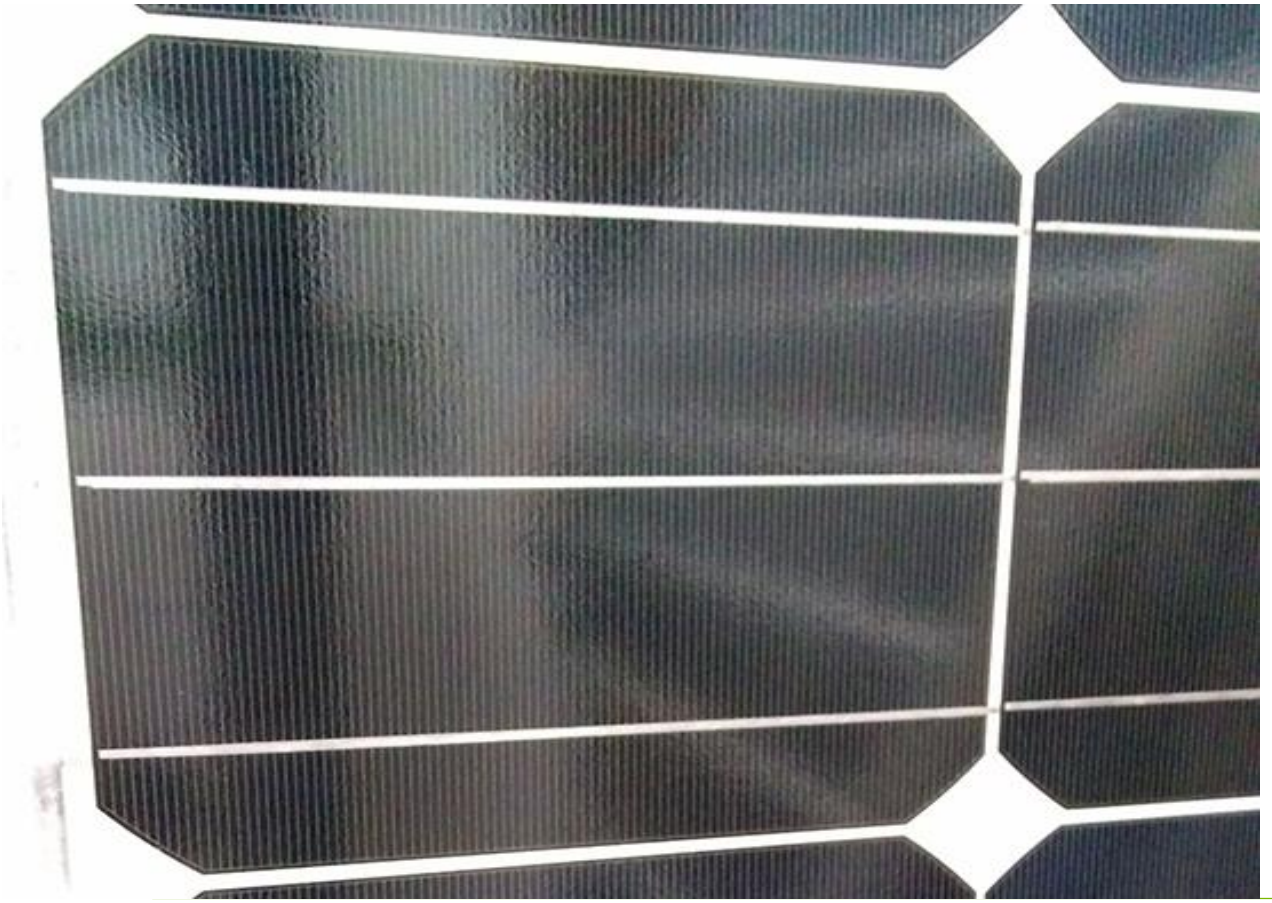
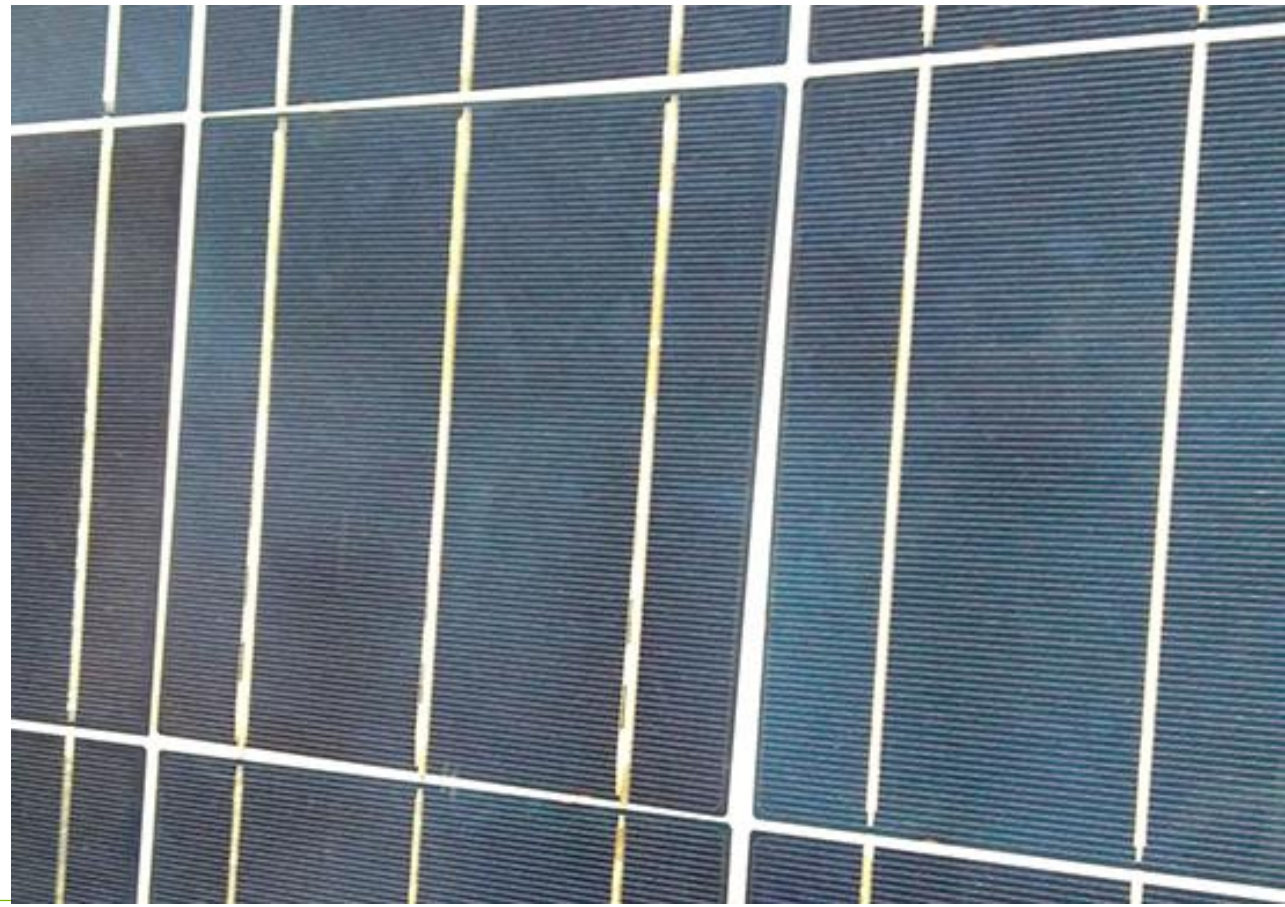
MONOCRYSTALLINE

- Slow manufacturing process (expensive), more efficient
- Cold and fog conditions



POLYCRYSTALLINE

- Quickly manufacturing process (cheaper), less efficient
- Hot and clean conditions



RELEVANT COMPONENTS OF A PV INSTALLATION

CENTRAL INVERTERS

- Concentration of electronic parts - Electronic and Central transformer together
- Central Inverter units can convert more power per unit, but much more power is lost if one goes down.
- Central inverters are less expensive than string overall for large utility-scale installations because fewer are required per site.
- Fixing central inverters requires technical expertise.

STRING INVERTER

- Distributed equipment and Central transformer
- Better for availability: since string inverters are converting less power for fewer panels, if one string fails, the whole array's energy is not lost, just the power from that string.
- Fixing a string inverter, which is small and portable, can be done by any trained electrician.

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