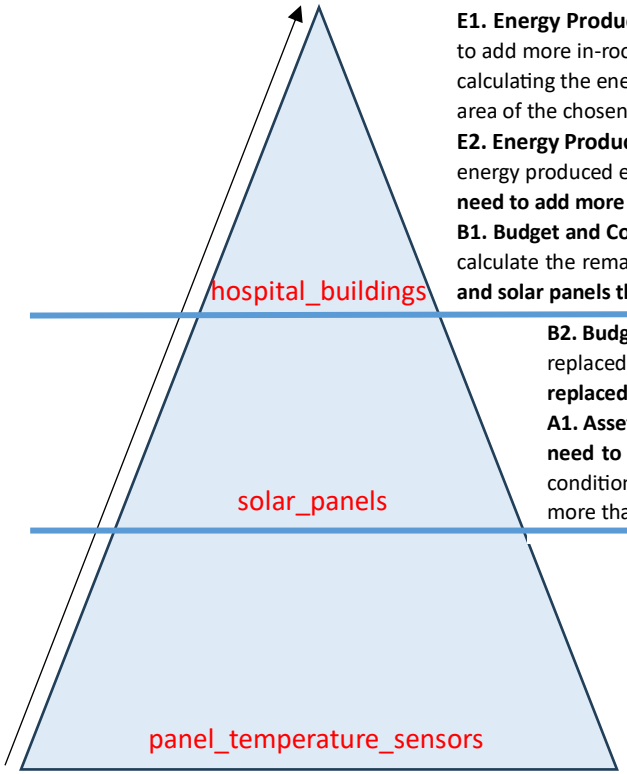
Asset Management

Decisions



E1. Energy Production: The hospital intends to increase the production of its solar energy. Unfortunately, due to a restricted budget, the hospital intends to add more in-roof solar panels to fill the empty space in just one of its buildings. For this plan, buildings with lower energy production will be chosen. By calculating the energy produced by every building, the hospital **can decide whether to execute the plan in building A or building B first**. Provide the empty area of the chosen building and the number of solar panels that could be installed in that building.

E2. Energy Production: This year, the hospital is striving to achieve its goal of fulfilling 30% of its annual electricity needs through solar energy. Has the solar energy produced enough to meet the hospital's energy target? Give information on the annual energy generated by in-roof solar panels. **Does the hospital need to add more in-house solar panels?**

B1. Budget and Cost: The hospital needs to find the total cost needed per hospital building this year to renew all assets that need to be replaced and then calculate the remaining budget. Using this information, **the hospital can decide whether to reduce the budget allocated for the replacement of sensors and solar panels the following year or not**. The budget for this could be lowered the following year if the residual amount is more than 30%.

B2. Budget and Cost: How much would it cost per solar panel overall if any of the in-roof solar panels and panel temperature sensors needed to be replaced because of their condition? **Finding this information is necessary so that the hospital can determine which solar panels need to be replaced first.**

A1. Asset Health: To ensure sufficient energy production for the hospital, the hospital needs to check the condition of the panels. **Does the hospital need to replace any in-roof solar panels this year?** A panel must be replaced if it has been in use for more than 5 years, its average physical condition is equal to or more than "poor—cracks, significant scratches, moderate soiling, renewal required," and it has experienced overheating more than 10 times since the solar panel was first installed. If yes, provide the in-roof solar panel details.

B3. Budget and Cost: Based on the condition of the panel temperature sensor, if there is any sensor that needs to be replaced, what is the cost per panel temperature sensor? **Using this information, we could see that the cost of replacing the panel temperature sensor still falls within the allocated budget, or does the hospital need to allocate more to it?**

A2. Asset Health: The hospital needs to check the condition of the panel temperature sensor, as it helps in providing early warning signs of overheating, malfunctions, or deteriorating performance of the in-roof solar panel. **Does the panel temperature sensor need to be replaced?** If so, which sensor must be replaced? The sensor should be replaced if it is more than five years old and records an incorrect temperature value (temperature below 0 or above 65 or generates null data). Provide the sensor's details and the date of the record when the error value is first generated by the sensor.

Energy Production

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