

DURAPI CONSULTING  
PTY LTD  
AIDC  
MINI SCOPING REPORT  
FOR 1MWp SOLAR  
PROJECT

This report is not a  
guideline/conceptual DESIGN  
for the requested SOLAR  
installation, only to be used  
for additional information.





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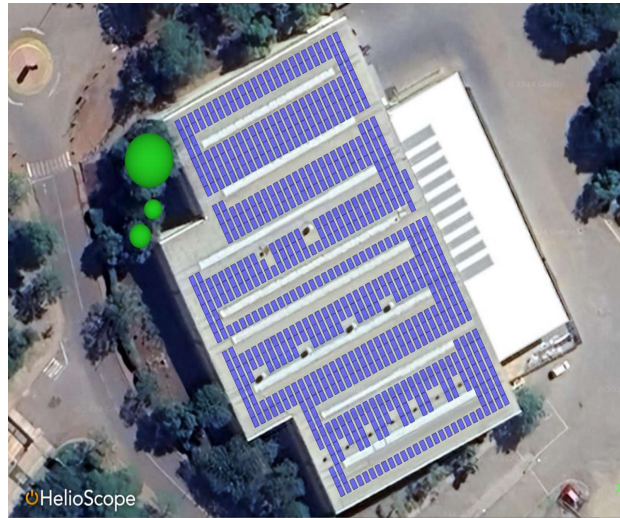
# Automotive Industry Development Centre

## Introduction

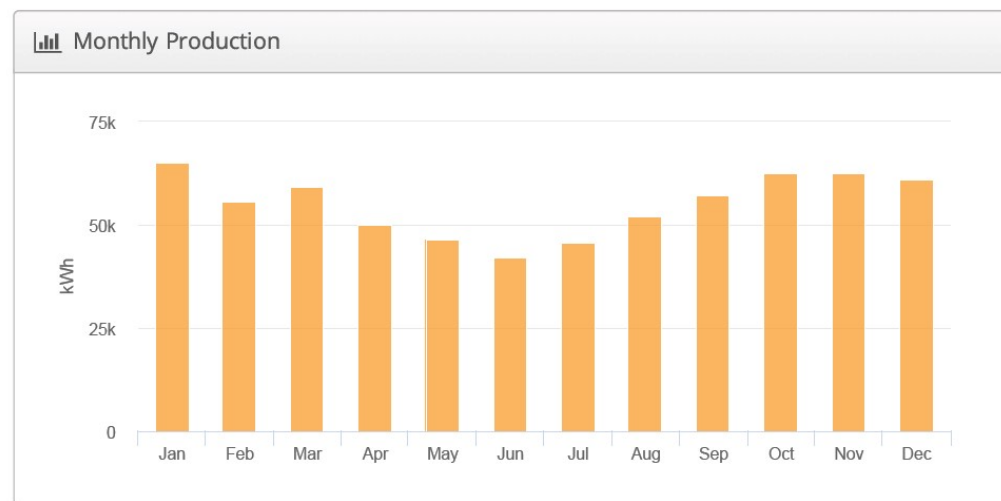
- Several AIDC Buildings analysed to determine potential rooftop PV Capacity.
- At this stage, three roofs are identified to generate approximately 1MWp, however there is potential for much greater capacity based on usage of additional rooftops.
- Potential Points of Connection were assessed on Site.
- Consumption Data was analysed.
- Further technical and financial studies will include analysis of additional buildings to cater for total demand (current and long term) of the facility.

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# Building C1 – PV Simulations and Yield



System Metrics	
Design	Building C1
Module DC Nameplate	403.7 kW
Inverter AC Nameplate	330.0 kW Load Ratio: 1.22
Annual Production	660.4 MWh
Performance Ratio	79.3%
kWh/kWp	1,635.8
Weather Dataset	TMY, 10km Grid, meteonorm/nrel medium resolution (meteonorm)
Simulator Version	3c421a077b-ce1e0eb65e-46a096f341-5e2711816e



Combined C1,  
C2,E4 – PV  
Layout

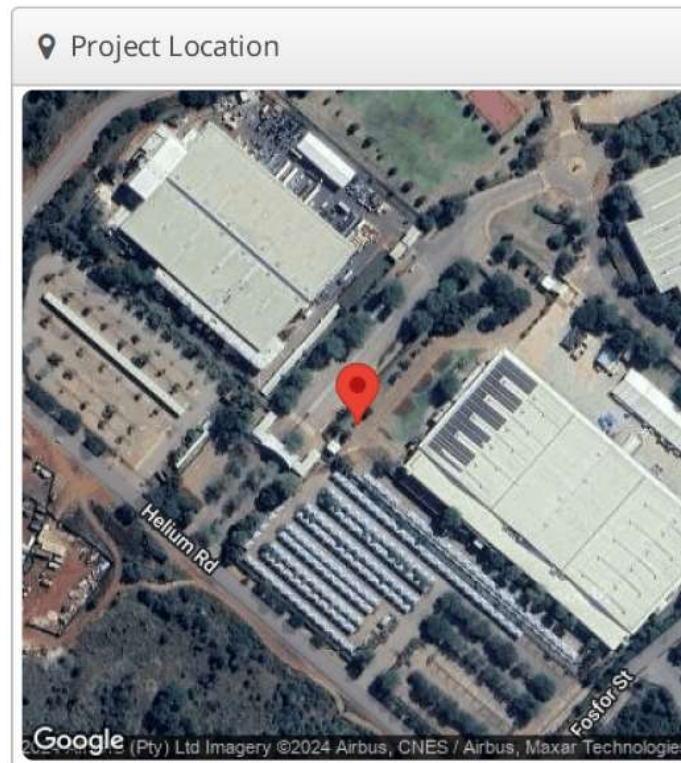


# Combined C1, C2,E4 - Potential Output

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NOTE!! Building not available anymore – replaced by A6, A5

System Metrics	
Design	Building C1+C2+E4
Module DC Nameplate	1.08 MW
Inverter AC Nameplate	880.0 kW Load Ratio: 1.23
Annual Production	1.605 GWh
Performance Ratio	76.3%
kWh/kWp	1,486.7
Weather Dataset	TMY, 10km Grid, meteonorm/nrel medium resolution (meteonorm)
Simulator Version	80745afb7a-01c4800a24-92755c102b-2814f475b2



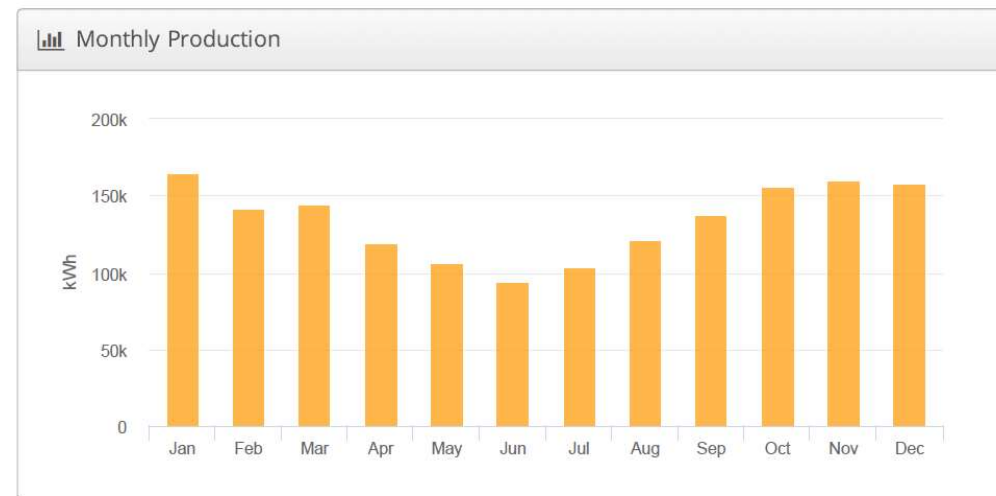
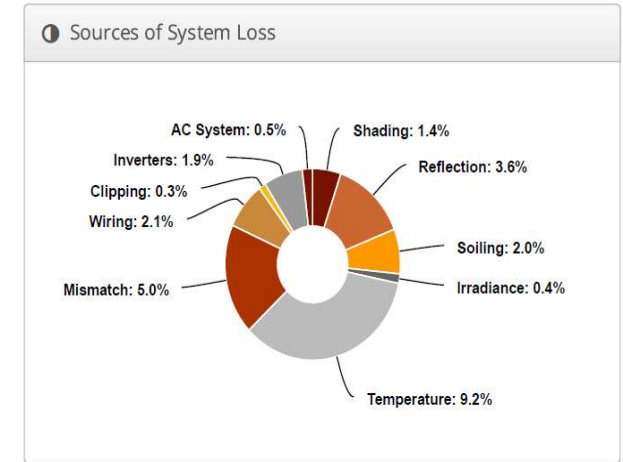
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Combined C1, C2, E4 – Energy to Grid

**HelioScope**

⚡ Annual Production

	Description	Output	% Delta
Irradiance (kWh/m <sup>2</sup> )	Annual Global Horizontal Irradiance	2,000.7	
	POA Irradiance	1,948.3	-2.6%
	Shaded Irradiance	1,921.5	-1.4%
	Irradiance after Reflection	1,851.5	-3.6%
	Irradiance after Soiling	1,814.4	-2.0%
	<b>Total Collector Irradiance</b>	<b>1,814.5</b>	<b>0.0%</b>
Energy (kWh)	Nameplate	1,960,397.8	
	Output at Irradiance Levels	1,952,123.7	-0.4%
	Output at Cell Temperature Derate	1,773,013.1	-9.2%
	Output After Mismatch	1,685,195.4	-5.0%
	Optimal DC Output	1,650,044.8	-2.1%
	Constrained DC Output	1,644,507.6	-0.3%
	Inverter Output	1,613,156.9	-1.9%
	<b>Energy to Grid</b>	<b>1,605,091.1</b>	<b>-0.5%</b>
Temperature Metrics			
	Avg. Operating Ambient Temp	21.4 °C	
	Avg. Operating Cell Temp	39.1 °C	
Simulation Metrics			
	Operating Hours	4598	
	Solved Hours	4598	



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# AIDC Electrical Substations (MV/LV)

- Several 11000/400V Substation Exists as Points of Connection

Location	<b>F1 Central Hub</b>	<b>(EMSS16)</b>
HT	Alstom K3 AF	
Transformer Type	Alstom	
Transformer KVA	630 KVA	
Transformer Impedance	4.57 %	
Transformer Serial no	Not visible	
Transformer Volts	11000 \ 400 V	
Main Circuit Breaker	CBI Fuchs – K25D – 400 Amp	
Sub Circuit Breaker 1	CBI Fuchs - K25D – 400 Amp	
Sub Circuit Breaker 2	CBI Fuchs - K25D - 400 Amp	

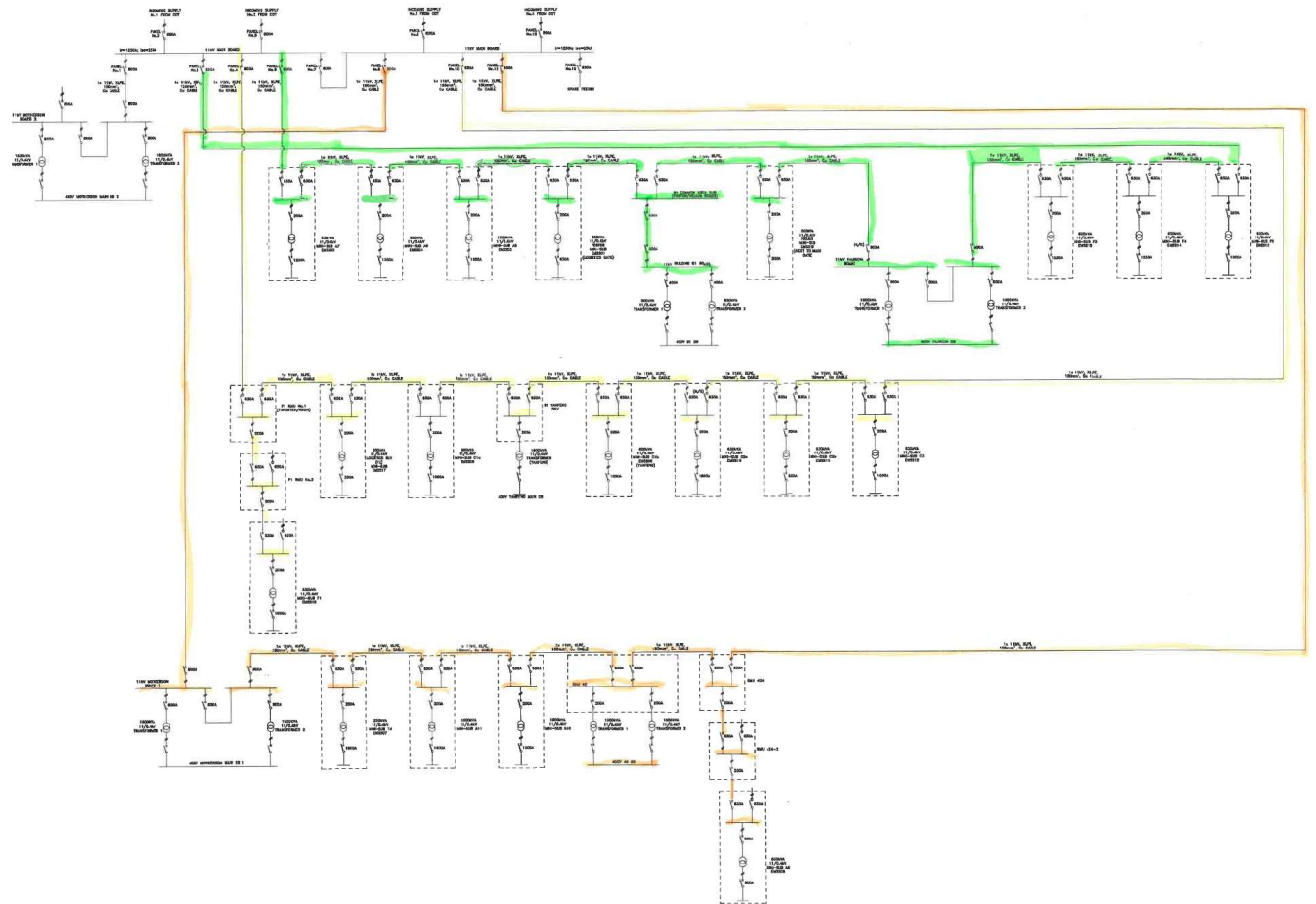
Location	<b>F3 Retail Centre</b>	<b>(EMSS15)</b>
HT	Alstom K3 AF	
Transformer Type	Alstom	
Transformer KVA	630 KVA	
Transformer Impedance	4.57 %	
Transformer Serial no	91011\01\001	
Transformer Volts	11000 \ 400 V	
Main Circuit Breaker	CBI- N 50 DEM	

Location	<b>Factory F4 (Adient)</b>	<b>(EMSS13)</b>
HT	GEC – T3 OF	
Transformer Type	Megatron Federal	
Transformer KVA	630 KVA	
Transformer Impedance	4.43 %	
Transformer Serial no	51324	
Transformer Volts	11000 \ 400 V	
Main Circuit Breaker	BTICINO MA 1250	
Sub Circuit Breaker - 1	CHINTNM 225S \ 3300 – 250A	
Sub Circuit Breaker - 2	CHINTNM 225S \ 3300 – 250A	
Sub Circuit Breaker - 3	CHINTNM 225S \ 3300 – 250A	
Sub Circuit Breaker - 4	CHINTNM 225S \ 3300 – 250A	

Location	<b>Factory F5 (Adient)</b>	<b>(EMSS14)</b>
HT	GEC – T3 - OF	
Transformer Type	Crause and Malcolm	
Transformer KVA	630 KVA	
Transformer Impedance	4.94 %	
Transformer Serial no	50074	
Transformer Volts	11000 \ 400 V	
Main Circuit Breaker	CBI 1000 A - M 50 DCM	




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# AIDC Electrical Substations - SLD



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# AIDC Electrical Substations – Assessing the possible POC's

Item	Photo	Area	Description
Photo 001		Emergency DB at Buildings F5 and F4	<ul style="list-style-type: none"> <li>The are no DB blank covers, exposing wires and terminations.</li> </ul>
Photo 002		Emergency DBs at buildings F5 and F4	<ul style="list-style-type: none"> <li>Cables and wires not labelled.</li> <li>No cable routing on cable entries</li> </ul>
Photo 003		Transformer at buildings F5 and F4	<ul style="list-style-type: none"> <li>Transformer has no labelling on it.</li> <li>Danger signs not visible due to weather</li> <li>Transformers are not locked with pad locks</li> </ul>