



Logistics Solution

Supply Chain Digitalization | Sakura FerroAlloys

Data-driven Mine Management

About Sakura

About

Sakura Ferroalloys, manufactures manganese at their smelter in Bintulu, East Malaysia.

Product is manufactured, transported, and exported via Samalaju port. Raw materials are imported through this same port and delivered to their smelter.

Product is also transported to Bintulu Port.

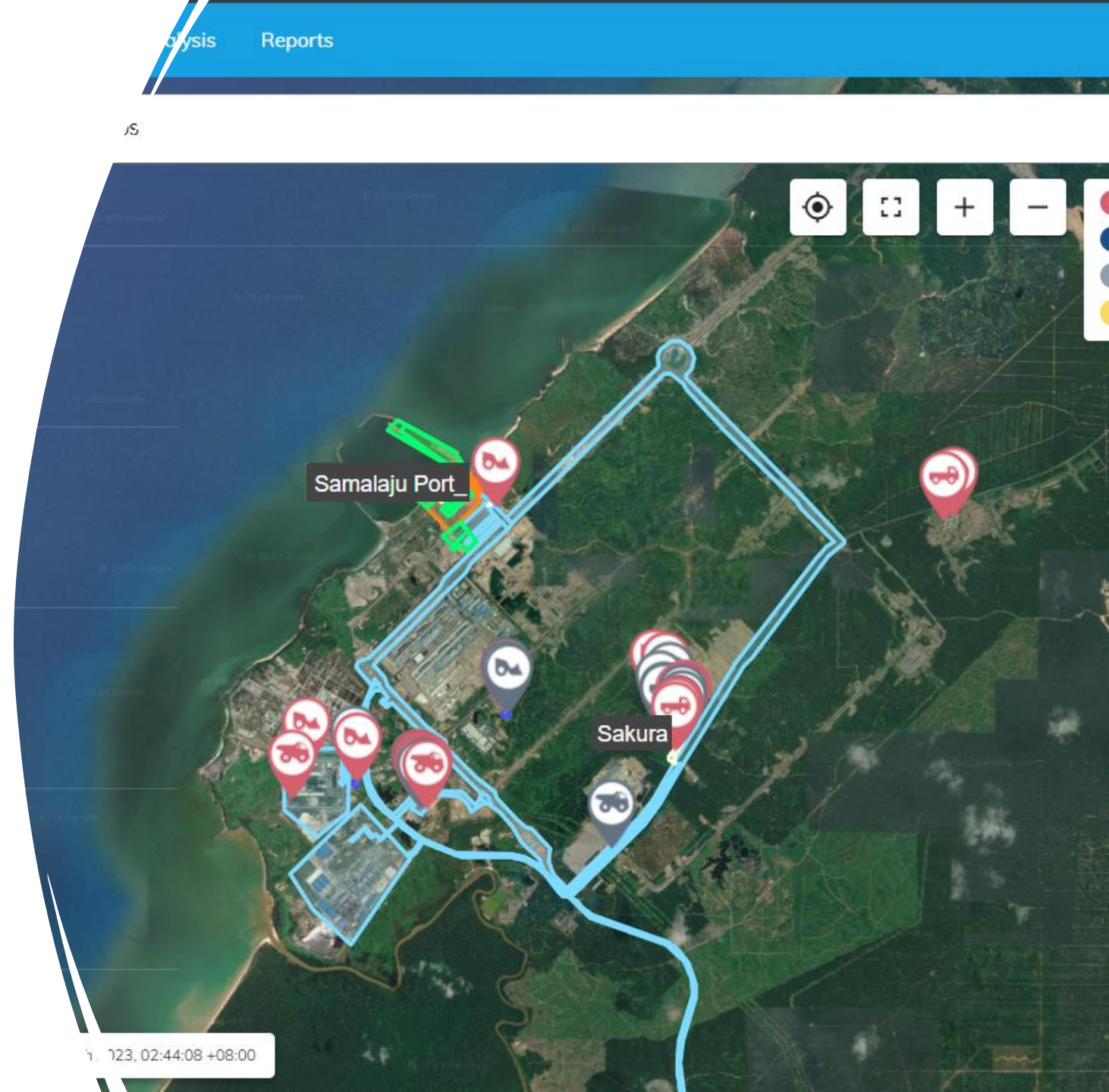
Challenges

Multiple sources of information

Low visibility of material movement

After-the-fact quality control (wrong stockpiles)

Theft



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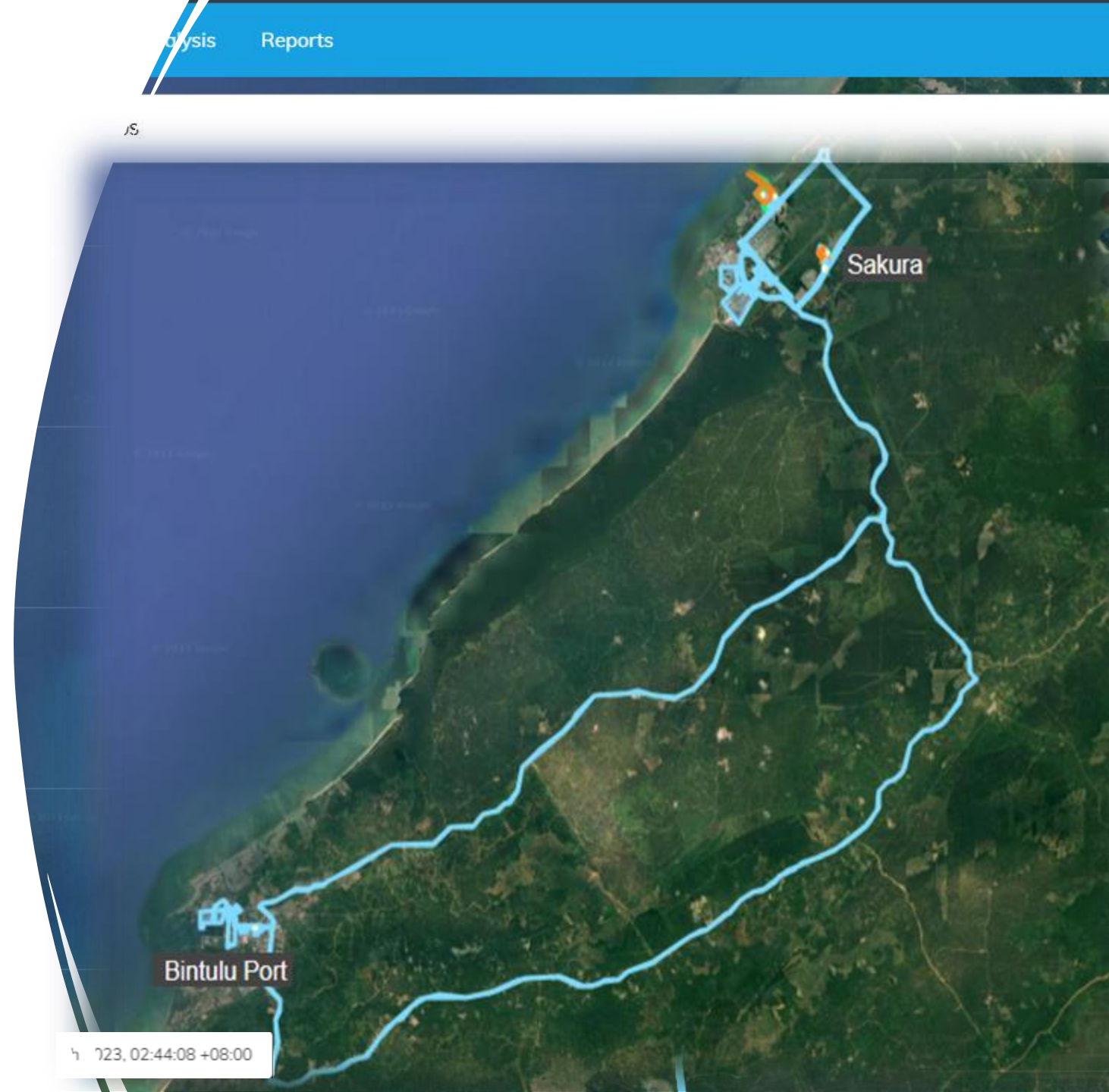
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Theft



The journey

What Sakura gets from AVA Logistics



The journey

What Sakura gets from AVA Logistics

AVA Dashboard Maps Management Analysis Reports

Management Delay Shifts Config Tasks (Logistics) Maintenance Planned Material Allocation Material Types Operators

Mine Area: Sakura FerroAlloys Sdn. Bhd. Date: 15/11/2023 Shift: Sakura FerroAlloys Sdn. Bhd. Da... Start Time: 6:00 AM End Time: 6:00 PM Calendar

Final Product Raw Materials Deliveries

Create a task

Tonnage * 0 Material Type * Order Number * Remarks Source Geofence Destination Geofence...

Resource Allocation

Bus

VQ 3211 VDV 7299 VEA 2599

C4A Dumpers

Dumper NO3 QTR 1608 Dumper NO2 QS2166K QM6081F Dezzi no 1 Dezzi No 2 Dumper NO1 SWEET

C4A Excavators

Task Details

GLOBAL StockpileNumber: CSC

From 2023/11/16 00:00 to 2023/11/16 12:00

Shift Task Type: Final Product

Material: FMLM

Source Geofence: Final Products

Destination Geofence: Air-Marine Warehouse_S

Remarks: AMW K1











QTY 3337 Logistics Fleet QTF 8008 Logistics Fleet AMB 6012 Logistics Fleet

QTR 8902 QTG 7708 AMB 6007

Home / Site View

Active Filter: Sakura Main Office incoming Truck

AVA Solutions

 <p>Sakura Main Office incomin... Detections: 🚚 🚚 🚚 Nov 15, 2023 9:29:16 AM 11 hours ago</p>	 <p>Sakura Main Office incomin... Detections: 🚚 🚚 Nov 15, 2023 9:29:04 AM 11 hours ago</p>	 <p>Sakura Main Office incomin... Detections: 🚚 🚚 Nov 15, 2023 9:28:07 AM 11 hours ago</p>	 <p>Sakura Main Office incomin... Detections: 🚚 🚚 Nov 15, 2023 9:27:57 AM 11 hours ago</p>	 <p>Sakura Main Office incomin... Detections: 🚚 🚚 Nov 15, 2023 9:27:48 AM 11 hours ago</p>
 <p>Sakura Main Office incomin...</p>	 <p>Sakura Main Office incomin...</p>	 <p>Sakura Main Office incomin...</p>	 <p>Sakura Main Office incomin...</p>	 <p>Sakura Main Office incomin...</p>

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- Scheduling
- Real-time tracking
- Access Control
- Loading Events
- Weighbridge Integration
- Material Inventory Management
- Exceptions & notifications

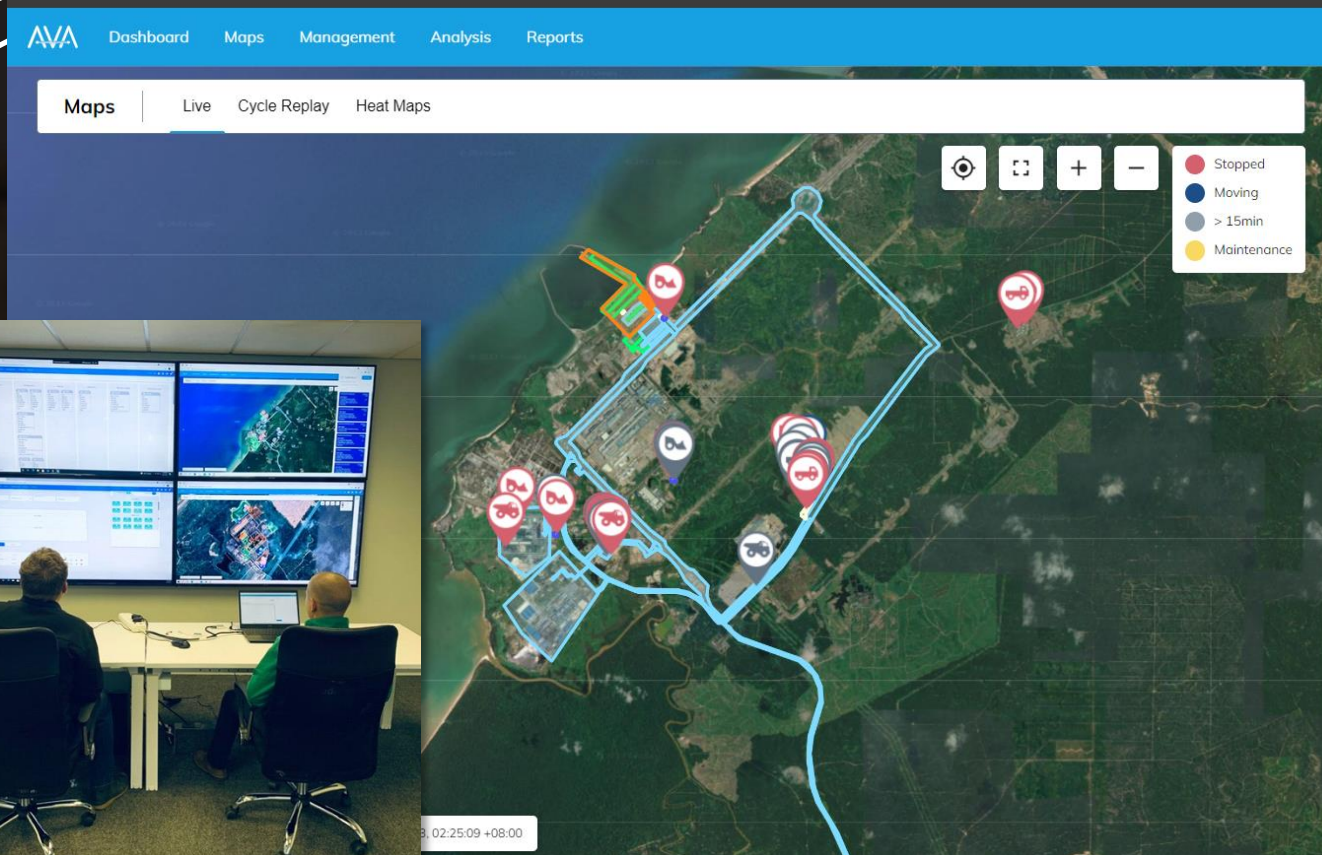
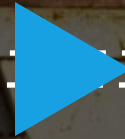
SOURCE



The journey

What Sakura gets from AVA Logistics

ON ROUTE



Notifications

View Inbox

View all notification types

GEOFENCE NOT SCHEDULED

18/07/2021 17:10

AVA Alert

Asset ZL50 NO2 was in Geofence Final Product Handling without authorization.

✓

Notifications

View Inbox

View all notification types

✓ All Speed Limits

0

✓ AssetNotReporting

0

✓ Auto Maintenance Opened

0

✓ Check For Over Loaded Trucks

3

✓ Check For Delay After Weighing

3

✓ Geofence Exit

0

✓ Geofence Not Scheduled

11

✓ Geofence Restricted Hours

0

✓ No Data All Feeds

0

✓ No Data Single Feeds

0

✓ Proximity Asset Not On Shift

0

✓ TestTimedNotification

0

✓ Weigh Out More Than Weigh In

0

✓ Weighing Not Scheduled

3

✓ Weight Discrepancy Check

0

Notifications

View Inbox

View all notification types

Clear All

PROXIMITY ASSET NOT ON SHIFT

14/09/2023 07:47

AVA Alert

Asset QTR 8907 in proximity of FEL 966 NO4 when not scheduled

✓

LOADING GEOFENCE NOT SCHEDULED

14/09/2023 07:47

AVA Alert

09/14 13:47: Asset QTR 8907 is loading in Geofence RMH Bunker 2 which was not configured as a Source Geofence in the Final Product task.

✓

LOADING GEOFENCE NOT SCHEDULED

14/09/2023 07:47

AVA Alert

09/14 13:47: Asset QTR 8907 is loading in Geofence RMH Bunker 2 which was not configured as a Source Geofence in the Raw Materials task.

✓

LOADING GEOFENCE NOT SCHEDULED

14/09/2023 07:47

AVA Alert

09/14 13:47: Asset QTK 8200 is loading in Geofence D1 which was not configured as a Source Geofence in the Final Product task.

✓

LOADING GEOFENCE NOT SCHEDULED

14/09/2023 07:47

AVA Alert

09/14 13:47: Asset QTK 8200 is loading in Geofence D1 which was not configured as a Source Geofence in the Raw Materials task.

✓

- Automated Journey Tracking
- Real-time Tracking
- Journey analysis
- Exceptions & notifications
- Integrations (fatigue, etc.)

The journey

What Sakura gets from AVA Logistics



DESTINATION

- Real-time tracking
- Access Control
- Weighbridge Integration
- Dumping Events
- Material Inventory Management
- Exceptions & notifications
- Reporting

DAY FROM | 2023-08-01 06:00
DAY TO | 2023-10-01 06:00
REPORT CREATED | 2023-11-09 23:41

Sakura FerroAlloys Sdn. Bhd.

License Plate Recognition Report					Security App Entries					Sakura Entrance	Sakura Exit	Grand Total	Entrance Accuracy	Exit Accuracy	Total Accuracy
Asset	Column L			Is	Asset	Column L			Is	Entrance (From LPR)	Exit (From LPR)	Grand Total (From LPR)	Entrance Accuracy (Sec & LPR)	Exit Accuracy (Sec & LPR)	Total Accuracy (Sec & LPR)
	Sakura Main Entrance	Sakura Main Exit	Total			Sakura Main Entrance	Sakura Main Exit	Total							
QTY2170	5	10	15	AMB6003	78	15	93	124	18	143	159%	127%	154%		
QCM2815	4	6	10	AMB6011	60	25	85	102	31	133	170%	124%	156%		
QTM3953	101	23	124	AMB6012	4	6	10	7	14	175%	117%	140%			
QTK9973	167	80	267	AMB6006	59	16	75	78	20	98	122%	125%	131%		
QTK8400	284	77	361	QAA6100H	159	59	218	239	81	320	150%	137%	147%		
QTK8700	1	6	7	QTK6128	117	68	185	193	89	282	165%	151%	152%		
QTK9100	230	65	295	QTK6607	115	43	158	184	70	254	160%	163%	161%		
QTK9976	352	172	524	QTK9902	136	59	195	206	81	287	151%	137%	147%		
AwB7005	120	11	131	QTK9907	44	14	58	74	23	97	168%	164%	167%		
QTK9976	4	4	8	QTK9953	56	16	72	101	23	124	180%	144%	172%		
QTK8655	349	126	475	QTK9973	125	62	187	187	80	267	160%	123%	143%		
QTK3093	28	22	50	QTK9976	195	116	311	352	172	524	181%	148%	168%		
QTK9491	9	1	10	QTH9227	57	34	91	99	54	153	174%	159%	168%		
QTR8907	235	24	259	QTH9925	82	34	116	138	43	181	168%	126%	156%		
QTH9921	361	91	452	QTH9932	143	74	217	214	96	310	150%	130%	143%		
QTK9661	201	84	285	QTK3335	108	65	173	164	82	246	152%	126%	142%		

DAY FROM 2023-07-06 06:00:00	WEIGHBRIDGE EVENT REPORT 'Sakura FerroAlloys Sdn. Bhd.'
DAY TO 2023-07-18 06:00:00	
REPORT CREATED 2023-10-30 18:51:37	

WEIGHBRIDGE EVENTS FOR ALL WB, ALL ASSETS, ALL MATERIAL TYPES (USED FOR DEVIATION INVESTIGATIONS)

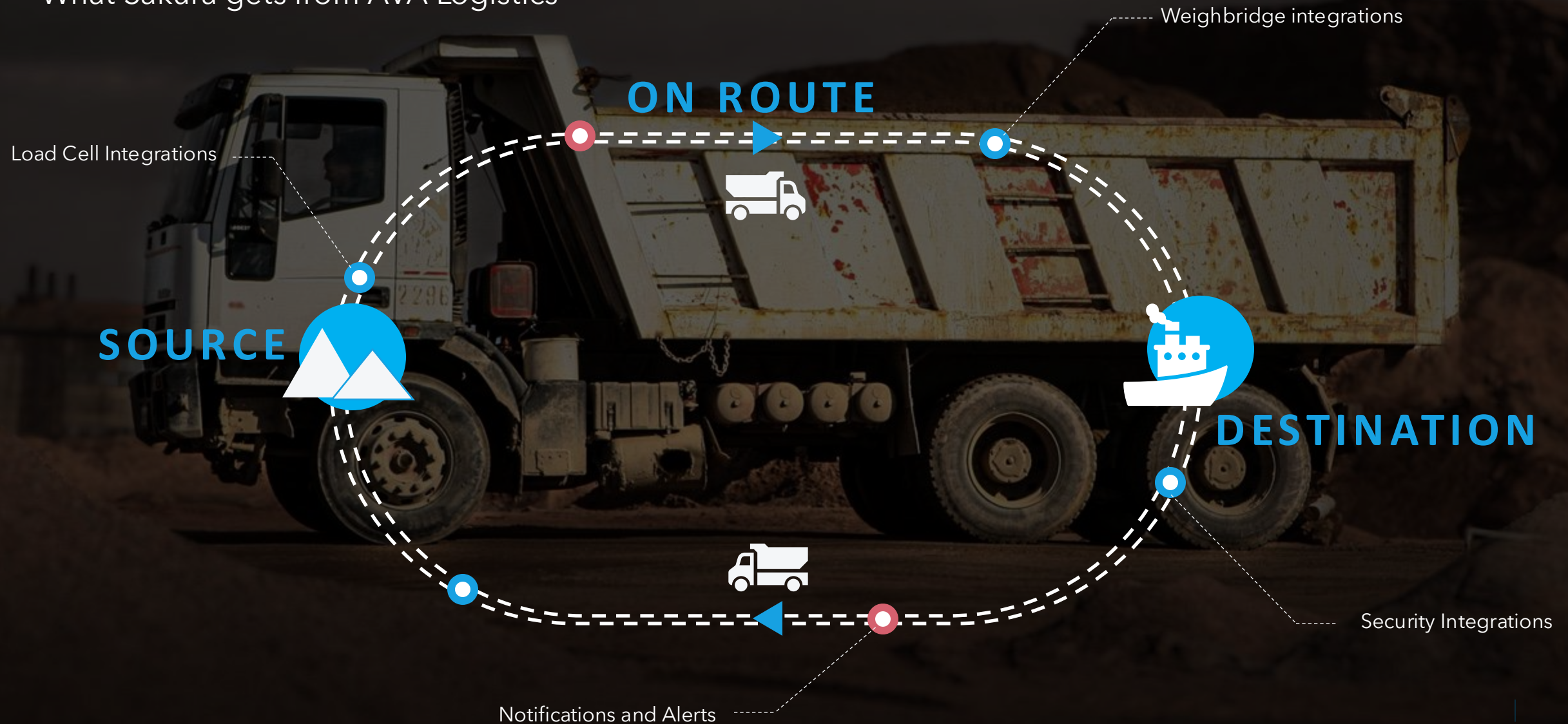
DATE AND TIME				CARGO DETAILS				WEIGHT		
RIP	IN	OUT	VESSEL	LOCATION	CARGO	SOURCE	DESTINATION	TRUCK	GROSS	TARE
1	2023/07/09 18:21	2023/07/09 18:33	COKE_A_MV JC Treasure_Nightshift	Raw Material Weighbridge 1	COKE_A	Samalaju Port	Raw Materials Receiving ba	AMB6011	19070	39480
2	2023/07/09 21:43	2023/07/09 22:09	COKE_A_MV JC Treasure_Nightshift	Raw Material Weighbridge 1	COKE_A	Samalaju Port	Raw Materials Receiving ba	QTK8700	18370	41240
					COKE_A	Samalaju Port	Raw Materials Receiving ba	AMB7005	19220	40340
					COKE_A	Samalaju Port	Raw Materials Receiving ba	QTK9973	17950	39040
					COKE_A	Samalaju Port	Raw Materials Receiving ba	AMB7010	18720	37900
					COKE_A	Samalaju Port	Raw Materials Receiving ba	QTK8200	18760	39890
					COKE_A	Samalaju Port	Raw Materials Receiving ba	QTK9921	17710	38860
					COKE_A	Samalaju Port	Raw Materials Receiving ba	QAA6300H	18610	39780
					COKE_A	Samalaju Port	Raw Materials Receiving ba	QTK9976	17560	37480
					COKE_A	Samalaju Port	Raw Materials Receiving ba	QTH9932	17700	38850
					COKE_A	Samalaju Port	Raw Materials Receiving ba	QTH9921	17680	38860
93	124	19	143	163%	127%	154%	SFFPortable3 Ad Hoc	02-Aug 06:00	AMB6003	Booked
85	102	31	133	170%	124%	156%	SFFPortable3 Ad Hoc	02-Aug 06:00	AMB6011	Booked
10	7	7	14	175%	117%	140%	SFFPortable3 Ad Hoc	03-Aug 06:00	AMB6012	Unbooked
75	78	20	98	132%	125%	131%	SFFPortable3 Ad Hoc	02-Aug 06:00	AMB67005	Booked
281	230	61	263	130%	133%	147%	SFFPortable3 Ad Hoc	05-Aug 06:00	QAA6100H	Booked
185	193	89	282	165%	131%	152%	SFFPortable3 Ad Hoc	06-Aug 06:00	QTK6128	Booked
158	184	70	254	160%	163%	161%	SFFPortable3 Ad Hoc	07-Aug 06:00	QTK6607	Booked
158	206	81	287	151%	137%	147%	SFFPortable3 Ad Hoc	08-Aug 06:00	QTK9902	Unbooked
58	74	23	97	168%	164%	167%	SFFPortable3 Ad Hoc	09-Aug 06:00	QTK9907	Booked
72	101	23	124	180%	144%	172%	SFFPortable3 Ad Hoc	10-Aug 06:00	QTK9953	Booked
187	187	80	267	160%	129%	143%	SFFPortable3 Ad Hoc	11-Aug 06:00	QTK9973	Booked
311	352	172	524	181%	148%	168%	SFFPortable3 Ad Hoc	12-Aug 06:00	QTK9976	Booked
51	99	54	163	174%	153%	168%	SFFPortable3 Ad Hoc	12-Aug 06:00	QTH9227	Unbooked
116	138	43	181	168%	125%	156%	SFFPortable3 Ad Hoc	14-Aug 06:00	QTH9325	Booked
217	214	96	310	160%	130%	143%	SFFPortable3 Ad Hoc	15-Aug 06:00	QTH9932	Booked
173	164	82	246	152%	126%	142%	SFFPortable3 Ad Hoc	16-Aug 06:00	QTK3335	Booked

Notifications	
View all notification types	
Clear All	
PROBABILITY ASSET NOT ON SHIFT	14/08/2023 07:43
AVA Alert	
Asset QTR 8907 is proximity of FEL 966 NDC when not scheduled	✓
LOADING SEQUENCE NOT SCHEDULED	14/08/2023 07:43
AVA Alert	
QTR 1347 Asset QTR 8907 is loading in Geofence RMH Ranker 2 which was not configured as a Source Geofence in the Raw Materials task.	✓
LOADING SEQUENCE NOT SCHEDULED	14/08/2023 07:43
AVA Alert	
QTR 1347 Asset QTR 8907 is loading in Geofence RMH Ranker 2 which was not configured as a Source Geofence in the Raw Materials task.	✓
LOADING SEQUENCE NOT SCHEDULED	14/08/2023 07:43
AVA Alert	
QTR 1347 Asset QTR 8907 is loading in Geofence D1 which was not configured as a Source Geofence in the Raw Materials task.	✓

Active Filter:	
Sakura Main Office Outgoing truck	
AVA Solutions	
Sakura Main Office Outgoing... Detections: 0 1 36:22 PM 7 hours ago	Sakura Main Office Outgoing... Detections: 0 0 1 31:17 PM 7 hours ago
Sakura Main Office Outgoing... Detections: 0 0 1 24:38 PM 8 hours ago	Sakura Main Office Outgoing... Detections: 0 0 1 24:37 PM 8 hours ago
Sakura Main Office Outgoing... Detections: 0 0 1 21:02 PM 8 hours ago	Sakura Main Office Outgoing... Detections: 0 0 1 21:02 PM 8 hours ago

The journey

What Sakura gets from AVA Logistics



The value

What Sakura gets from AVA Logistics



01
**DIESEL
THEFT**

02
**SUPPLIER
REDUNDANCY**

03
**JOURNEY
COVERAGE**

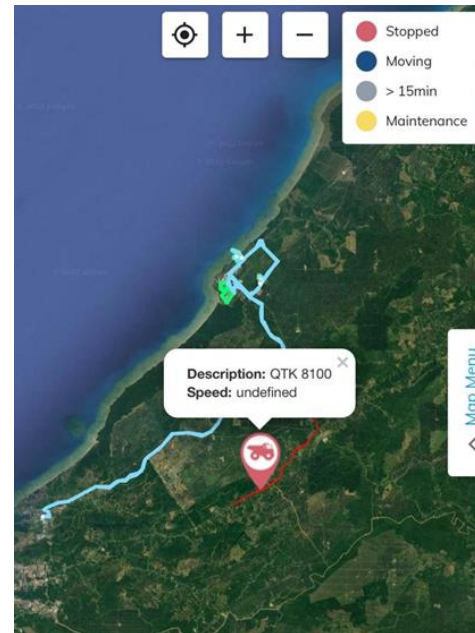
The value

What Sakura gets from AVA Logistics

October 2021

01 DIESEL THEFT

Truck went off route



Diesel Stealing Depot found



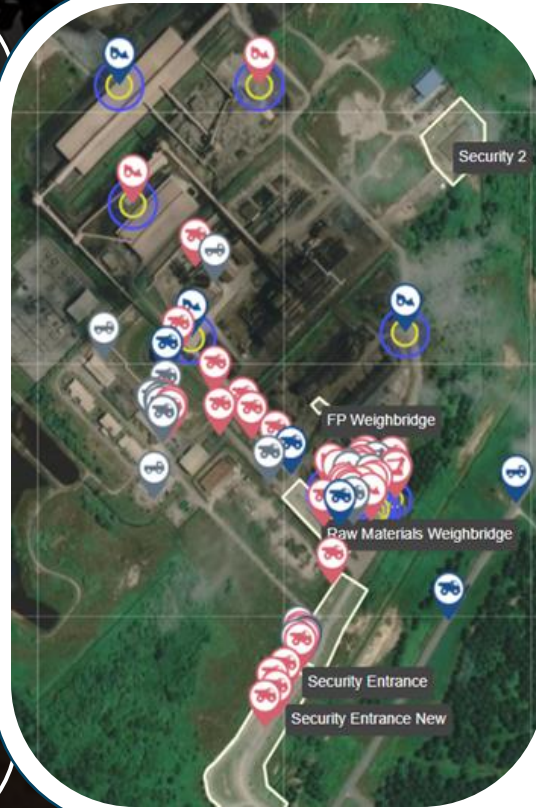
The value

What Sakura gets from AVA Logistics

February 2023

02

SUPPLIER REDUNDANCY



- SGS was main testing, inspection and certification company.
- AVA integrated with loaders, excavators, dumpers, weigh bridges and Logistics trucks.
- Cancelled contract with SGS in February 2023 on all Raw Material movements.
- Annual saving of **\$1 million**

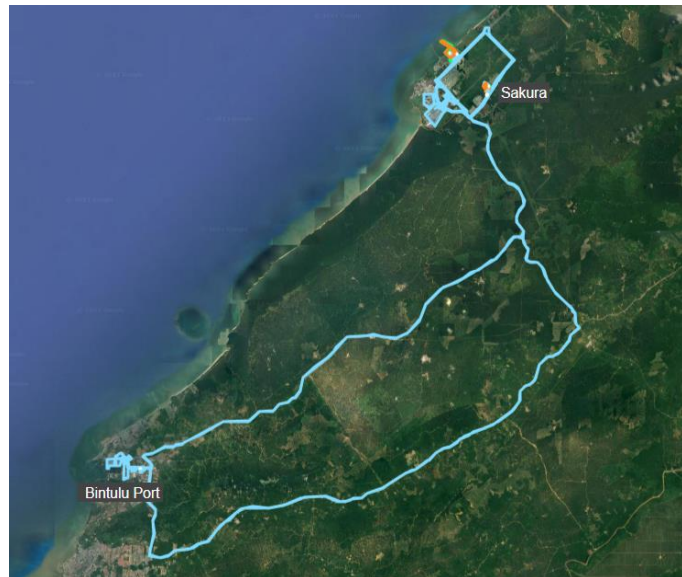
The value

What Sakura gets from AVA Logistics

03 JOURNEY COVERAGE

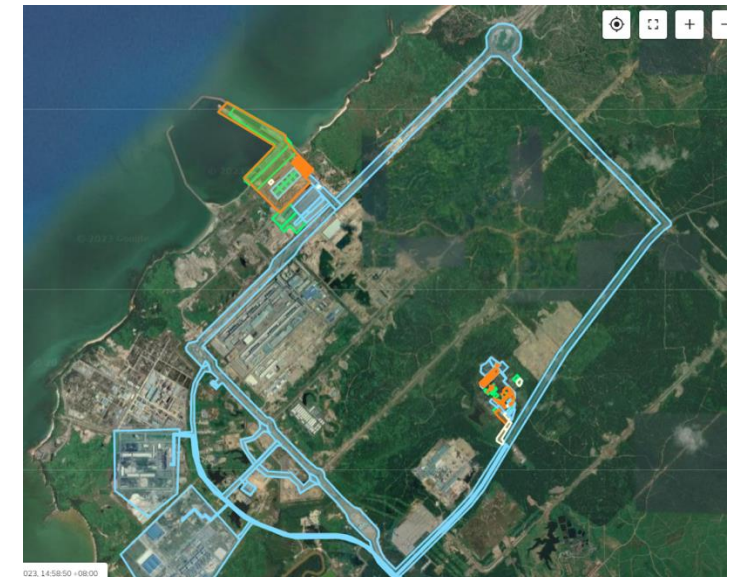
Final Product Journeys

99% Sakura to Bintulu
Q3 | 2023



~75km

99% Sakura Samalaju Port
Q3 | 2023



~10km

The value

What Sakura gets from AVA Logistics



01
**DIESEL
THEFT**

02
**SUPPLIER
REDUNDANCY**

03
**JOURNEY
COVERAGE**



Thank You