Outline

1. Overview and Scope
2. Actors and Activities list
3. Process flow
4. Mobile App Screens: fields, flow
5. Web App Screens: User Input & flow
6. Web App Reports (on delivery compliance, distance deviation (kms) etc.)
7. **Customization of invoice for each transporter**
8. **Integration fields**
9. **Geo-fencing of dealers? (Provision for SAP field)**
10. **SMS / MAIL to customers (In mail approval button, SMS will have dealer portal link; Mail / SMS will use Invoice as identifier )**
11. **Integration with dealer portal – Phase-2**

Overview and Scope

E-POD (Electronic proof of delivery) will enable transporters of OCL to raise & track invoices along with **EPOD / LR** for cement carried by them on behalf of OCL. In addition, it should help in flagging disputes in delivery (if any) by keeping stakeholders informed in real-time.

**Solution will provide visibility of delivery to channel partner**

Currently to claim payment for transportation services, transporter needs to ensure

1. Ensure that driver gets LR signed upon delivery.
2. Receiving organization may have their own procedure for certifying the LR.
3. Collect physical copies of LR and wait till all LRs are received for a particular work order.
4. Raise the invoice along with physical copy of LRs.

With the proposed system:

1. Driver or customer’s representative can use mobile app to confirm that material has been received and upload scanned image of the LR.
2. Alternatively, driver can send an SMS to a predefined number that delivery has been made. Is it possible to close the trip with SMS from driver? Handling multiple responses? (Can we consider only the last delivery point in multiple invoice case) – Radhika check with Peeyush
3. Can we trigger OTP to sold to party / ship to party?

Can we give screen to customer to upload phone number of on-ground party?

1. Both A) and B) above will be geo-tagged – the former with GPS coordinates obtained from mobile app and the latter with geo-coordinates from nearest mobile tower (as provided by mobile operator)
2. The system will electronically notify (SMS / Mail / Update in existing dealer portal); Do we need geo-fence of channel partner in SAP for us to send this trigger? the customer’s authorized representative and transporter that the material has been received and if the transporter needs to arrange scanned copy of LR (for example in case b above). Scanned copies of LR can be uploaded via web app or mobile app from anywhere and again system will notify customer and transporter of any such upload.
3. As soon as all confirmations of delivery are available in system and corresponding transportation PO issued from OCL (To be discussed with SAP), the system will notify the transporter to review and submit invoice to OCL.
4. Customized invoice will be designed for each transporter in Web portal. Against every invoice number, post availability of EPOD copy & Dealer acknowledgement option to ‘Generate invoice’ will be enabled
5. Post invoice is generated same will be pushed to accounts portal with details / analytics on ‘Delivery compliance’. Accounts will validate invoices in portal & will park invoices
6. System will generate create an excel file that can be uploaded in SAP by OCL back-office team.

The solution will consist of following components:

1. A mobile App for to confirm receipt and to upload LR
2. A web application that can also work on mobile to review transactions and reports.
3. A SMS gateway to receive SMS of confirmation
4. A Gateway to track Sim-Card Location for non-smart phone user drivers
5. Integration with SAP to get near real-time cement invoices (customers, transporters, drivers) and POs released for transportation services.
6. Billing Portal to automatically generate and upload invoices after receipt confirmation.
7. Reports and Dashboards for tracking status of deliveries at various stages
8. And obviously server resident software available via shared server hosted at OCL and application maintained by us.

Actors and Activities List

E-POD (Electronic proof of delivery) will enable transporters of OCL to raise invoices for cement carried by them on behalf of OCL. In addition, it should help in flagging disputes in delivery (if any) by keeping

|  |  |  |  |
| --- | --- | --- | --- |
| SN | Actor | Activity | Context |
| 1 | Driver / Transporter rep | Download E-Pod Confirmation App | From Playstore. Assisted by security guard, transporter’s rep at plant. |
| 2. | Driver | Receive SMS (on non-smart phone) for approval to get location and send consent SMS | *[OPEN] For 1 and 2 Need to know when a driver comes to plant, his mobile number and whether he carries a smart phone. May be a simple app for guards, representative to signup driver (keyed by mobile number).*  *Vendor Collaboration App? Or when cement invoice done, then SMS/Notification to transporter rep if driver not in system?*  *An App/Web for transporter to mark whether the driver has a Smartphone or not ? (Seems reasonable as driver might change post/during loading)*  *Discuss with SAP – Radhika: Can we integrate transporter rep entry on truck classification into SAP Gate-out screen (for security guard)*  *How to ensure that driver is carrying prescribed sim number?*  *One ping to ensure Geo fence of trucks is matching with plant to be done*  *Role defining – Security guard or Transporter rep, who should install app!!*  *Screen to security guard with checklist before letting driver go out of plant*  *Invoice number with EPOD, Sim tracking to be sent back to SAP*  *Should we allow trucks to leave plant gate with-out confirming EPOD / Sim ???*  *Can we build some system in SAP to not let truck leave without EPOD/ Sim?*  *Validation of Geofence & Sim location can be done before starting the tirp / before letting driver leave plant*  *In case of smart phone, driver to enter truck number at gate, Intelli can extract invoice data from backend*  *Discuss with SAP: How to show that driver has started trip to security guard in case of EPOD???*  *For now leaving out concept of tracking driver / truck using EPOD app*  *How to follow up on non-complying drivers?*  [Devendra] In case of multiple invoices in single truck, driver has to enter individual invoice(from drop down) against same vehicle (App) and has to send individual SMS for each invoices.  LR entry will be optional, but good if we can. |
| 3 | Driver | In EPOD confirmation app, confirm delivery, scan signed LR | [TBC] Can confirmation be done without signed LR. ?   * Allow trip closure without LR scan but not without geo-fence for EPOD app   [NO – but TBC] OTP to customer representative phone that needs to be given while confirming  LR number at gate-out will be given through integration before gate-out  Do transporters give out multiple LRs for same truck?  Driver screen wil have drop down to select date, invoice number, LR number.  Then he can upload LR copy, Geo-fence for every invoice  Exceptions:   1. Driver dint close the trip |
| 4 | Driver | Send SMS with identifier 1- proper delivery; 2- customer not available etc. to confirm that delivery has been done. SIM no. to be used by Intelli to get geo-code | Predefined format – but robust at backend.  [TBC] LTL will require invoice number |
| 5 |  |  | * We are not giving app to customers; Not required |
| 6 |  |  | We are not giving app to customers; Not required |
| 7 | Customer Auth Rep | Send SMS with link to goto e-PoD confirmation by Transporter  Send Email with LR pictures, Geo-location and a link to confirm and accept the request |  |
| 8 |  |  |  |
| 9 | Customer Auth Rep | Receive notification of receipt and/or LR being uploaded. Notification via email, SMS, Android notification | Generated by system. User can dispute or not take any action  During stabilization of EPOD (3-4months) we can use this method for both trade & non-trade customers  Post that integration with dealer portal to be done  Points to note:   1. 1 SMS to confirm the delivery 2. If req. 2nd SMS to inform customer that LR has been uploaded with weblink of LR 3. Or Mail with LR triggered to customer. He should acknowledge in mail & ve can verify his mail ID 4. Option to transporter to re-send SMS/Mail to customer (couple of times) 5. Devendra to come back on is there any provision to use SIM for confirming customer   [Devendra] There is no way to confirm customer Mobile is used for acceptance in case of SMS weblink, the only way is, if he replies using SMS like 1 for accept, 2 for deny etc. |
| 10 |  |  |  |
| 11 |  |  |  |
| 12 |  |  | Declining the delivery confirmation is taken identifier for assuming disputes |
| 13 | Transporter | Download full e-pod App and get Web Account. | Signup to be done by OCL staff (logistics)  [NO] No request for account creation  One time log in creation for transporters to be done by Logistics |
| 14 | Transporter | Receive confirmation of delivery and via email and via Andorid notification along with follow activity (get LR etc) | Generated by system – informative only  Scheduler to send ‘Push notification’ to transporter at the end of day or 2 on pending LR scans |
| 15 | Transporter | Dashboard on Portal / Mobile app  Review confirmation of delivery and LR scan for correctness.  Confirmation of delivery and LR will have geo-tagging and reverse address lookup.  Obvious mismatches will be flagged by system – but there is an error margin due to reverse error lookup | In case of error (wrong LR against invoice for eg), remove it and update LR (Option to change scan LR copy to be given)  [TBD] Business rules and process needs to elaborated (We can consider same logic as that of GPS for arriving at deviations)  Note:  I will come on whether deviations to be shown to transporter |
| 16 | Transporter | In case LR is not available, request customer to confirm receipt | See activity X (see point no:9) |
| 17 |  |  |  |
| 18 | Transporter | Find/Respond to new PO’s and readiness to prepare and submit invoice  Discuss with SAP:   1. Should we send PO, Shipment cost, Transporter detail & Invoice / time stamp? 2. LR Scan, delivered Geo-fence\*\*, (PO- SAP; LR – SAP), Customer confirmation; Check all this before allowing transporter to generate invoice (till then this button is inactive) 3. \*\*Should we make this mandatory? Ask Peeyush | System will notify transporter when PO is issued by OCL and pending number of PoDs. Transporter can also use the web app to find POs and readiness to submit. System will also send a notification once only if invoice against PO is ready  [TBD] Daily reminder email of status (or every 2-3 days)  Important:   1. What information is available in PO? 2. What is available in transporter invoice? 3. Do we need intelli to calculate invoice-wise freight?? (OCL to confirm) |
| 19 | Transporter | Review underlying details of PoD for invoices and then confirm submission of invoice  Note:  “Should we show route-wise to accounts?” | Once submitted the PoD will be locked for further changes. Once invoice is submitted then workflow will push details into accounts screen  [TBD] –  Transporter will be allowed to generate invoice irrespective of PO clubbing  Accounts will not process invoices till entire bunch is available |
| 20 | OCL logistics | Signup transporter | Signup to be done by OCL staff (logistics)  [NO] No request for account creation |
| 21 |  |  |  |
| 22 |  |  |  |
| 23 |  |  |  |
| 24 | OCL Sales | [TBC] Receive notification for delays in ePoD  We will send weekly mails to sales on pending customer acknowledgement | [TBC] A threshold if the confirmation is not send by the customer |
| 25 | / SAP | Release PO for submission of transportation invoice |  |
| 26 | OCL Accounts | [TBC] Receive notification of new invoice file being ready for upload (in email or location)  We can keep it on hold for now | [TBC] .csv file is sufficient which accounts can download and upload into SAP as per desired format  2 columns will be added in accounts portal   1. To accept or reject liability 2. To select reason from drop down 3. In case of an issue it should go back to transporter 4. Send mail to transporter to indicate invoice reject 5. Show in transporter dashboard   Generate CSV:   1. Option to select both PO & Invoice and generate final CSV upload can be given to accounts 2. Summary on Date selection, PO, no. of invoices in SAP, Invoices received etc. to be provided 3. Option to select PO & see details can be given   Observation:   1. CSV format, location, fields etc. to be decided with SAP |
| 27 | OCL Accounts | [TBC] Review and verify details of invoices in billing portal | Can reject invoice with comments in which case underlying PoDs become editable for transporters |
| 28 | OCL Accounts | [TBC] Mark invoice in billing portal as accepted | refer to point 26 |
|  |  |  |  |
| 29 |  | New app not required. Driver app can be used for anyone | Find invoice and upload LR. LR to be obtained outside of the system by transporter or transporter agent  Common – function for any and all stakeholder  Insert truck no & date bracket; system can fetch all invoices in drop down  Select Invoice, LR and upload |
| 30 |  |  | refer poin 29 |
| 31 | All | [TBC] PoC | To identify 2-3 transporters and 2-3 buyers who will help with the PoC testing and improving UI experience. |

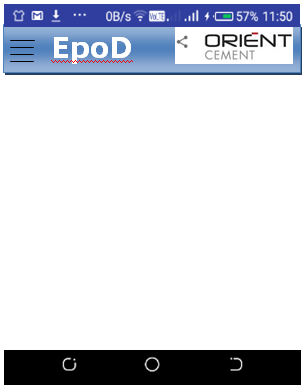
A note/terminology

1. LOV = List of Values – where in the value of a field is from pre-defined list of values. Some times drop down is used instead to refer to such fields
2. TBC – Means to be discussed and then finalized
3. In the document we use challan number to mean combination of mines and challan number
4. A date field includes time
5. While describing an application we may give a short description of functionality or scope of activities. But the realization of the functionality is shown on a screen followed by several notes describing the implementation and business rules. So the best way will be to look at the screen then notes to visualize the behavior.
6. There also may be some internal or development notes mentioned – these have no impact on user experience but critical caveats for development team to incorporate
7. The core concept described below really should be not part of functional spec, but it will be useful to understand it, since these unify the functionality realization.
8. Screens given below are mainly to get an understanding of how the information will be displayed or entered on the app/web. The actual UI/UX of the app/web will be much different than the one given here

**1. Login Screen**

The app will first ask the user to enter how he would like to enter and then ask for login and passwords.

Please note that we are not recommending use of OTP for logging in as it would be cumbersome and might be a deterrent for buyers. OTP to verify mobile nos. is for first time registration only



**Transporter**

**Login \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Transporter**

**Buyer/Dealer**

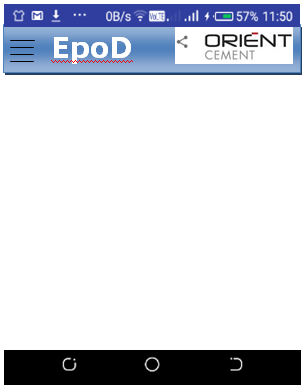
**Password \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Driver**

**Not Registered ? Click Here**

**OCL**

2. Registration Page



**Register As: [LoV] Tr/Deal/OCL/Dr**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Email: Optional /mandatory for OCL and Buyer**

**👍**

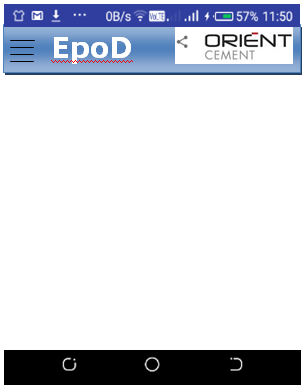
**Moble: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Verify Mobile:**

**Enter OTP**

**Enter Password: \_\_\_\_\_\_\_\_**

TRANSPORTER APP



**Deliveries**

**OCL PO + Invoices**

**disputed invoices from accounts**

**Upload LR**

**Dashboard Summary**

**Trips in Transit**

The Menu will contain the following:

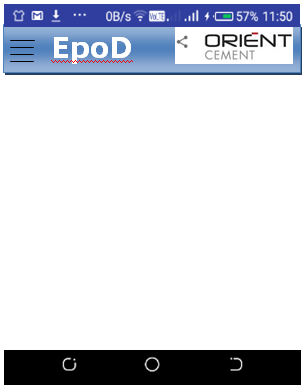
1. Invoices Pending – POD and PO available

2. Ready for submission

3. Invoices accepted by OCL Accs

4. Master for changing password etc

Transporter->Deliveries

3 Options to filter. As soon as we will get invoice no. we will mark the vehicle in transit.



In Transit **Unverified** Disputes ALL

**Invoice# \_\_\_\_\_\_\_\_\_\_\_\_\_ Truck No. \_\_\_\_\_\_\_\_\_\_\_ Customer Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Destination\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**From Plant \_\_\_\_\_\_\_\_\_\_\_ Time : 27/01/19 15:37**

**Unload Place \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Unload Time \_\_\_\_\_\_\_\_\_\_**

**ACTIONS**

* Upload LR
* Request EpoD
* See Snapshot

**👍**

1. Transporter will also have an option to upload signed LR

2. By clicking transporter can request for E-PoD. As a request is raised:

a) An SMS and Email is send to buyer with a link to approve/reject.

b) c) and Logisitics can also see that the verification from buyer is awaited.

ALL

It takes you to Filter Option

Filter Options are : Delivery Status [Transit, Pending LR, Disputes, Approved]

Search Columns for Customer, Truck No. Dispatch Date [From and To]

**Invoice# \_\_\_\_\_\_\_\_\_\_\_\_\_ Truck No. \_\_\_\_\_\_\_\_\_\_\_ Customer Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

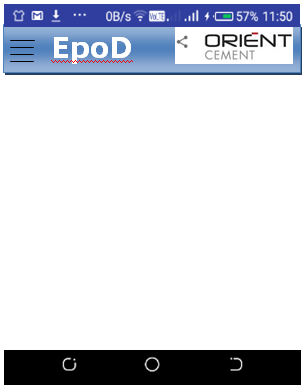
**Destination\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**From Date \_\_\_\_\_\_\_\_\_\_\_ To Date : \_\_\_\_\_\_\_\_\_\_**

**Delivery Status [FILTER MENU]**

**Search**

Transporter-> PO+Invoice



Invoicable **Pending LR** Disputes ALL

**PO# \_\_\_\_\_\_\_\_\_\_\_\_\_ Plant \_\_\_\_\_\_\_\_\_\_\_**

**From \_\_\_\_\_\_\_\_\_\_\_\_\_\_ T0 \_\_\_\_\_\_\_\_\_\_\_**

**Amount\_\_\_\_\_\_\_\_\_\_\_ No. of Trips \_\_\_\_\_\_\_\_\_\_\_**

**From Plant \_\_\_\_\_\_\_\_\_\_\_ Time : 27/01/19 15:37**

**LR Recd \_\_\_\_\_\_\_\_\_\_\_\_ Verification \_\_\_\_\_\_\_\_\_\_**

**Disputes \_\_\_\_\_\_\_\_\_\_\_\_**



**Create invoice**

1. Create Invoice Button will be “Grey” until all LRs and disputes are resolved. In other words only “invoiceable” link will have the Create Invoice Button

ALL

It takes you to Filter Option

Filter Options *are : Delivery Status [Transit, Pending LR, Disputes, Approved]*

Search Columns for Customer, Truck No. Dispatch Date [From and To]



**Invoice# \_\_\_\_\_\_\_\_\_\_\_\_\_ Truck No. \_\_\_\_\_\_\_\_\_\_\_ Customer Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Destination\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

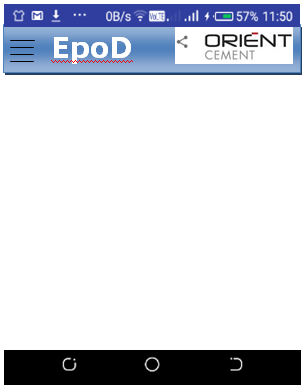
**From Date \_\_\_\_\_\_\_\_\_\_\_ To Date : \_\_\_\_\_\_\_\_\_\_**

**Delivery Status [FILTER MENU]**



**Search**

Transporter-> Invoice Status



**Date of Invoice# **

**From Date \_\_\_\_\_\_\_\_\_\_\_ To Date : \_\_\_\_\_\_\_\_\_\_**

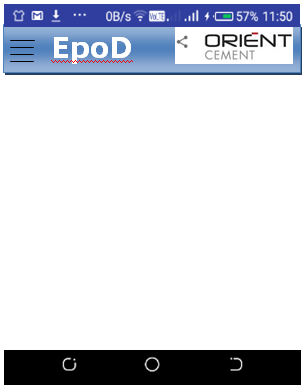
**Delivery From **

**From Date \_\_\_\_\_\_\_\_\_\_\_ To Date : \_\_\_\_\_\_\_\_\_\_**

**plant\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Transporter-> Disputes

\* Same as accounts->Disputes



**Invoice# \_\_\_\_\_\_\_\_\_\_\_\_\_ Truck No. \_\_\_\_\_\_\_\_\_\_\_ Customer Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Destination\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**From Plant \_\_\_\_\_\_\_\_\_\_\_ Time : 27/01/19 15:37**

**Unload Place \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Unload Time \_\_\_\_\_\_\_\_\_\_**

**Driver Mobile \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Dispute \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Qty Dispatched \_\_\_\_\_\_\_\_ Qty Received \_\_\_\_\_\_**

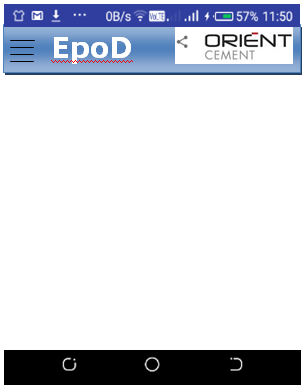
**Your Comments \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Notification goes to Buyer and OCL for review and comments

**Submit**

CURRENT TRIP CONFIRMATION



**Invoice# \_\_\_\_\_\_\_\_\_\_\_\_\_ Truck No. \_\_\_\_\_\_\_\_\_\_\_ Customer Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Destination\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**From Plant \_\_\_\_\_\_\_\_\_\_\_ Time : 27/01/19 15:37**

**Unload Place \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Unload Time \_\_\_\_\_\_\_\_\_\_**

**Qty Received \_\_\_\_\_\_\_\_\_\_\_**

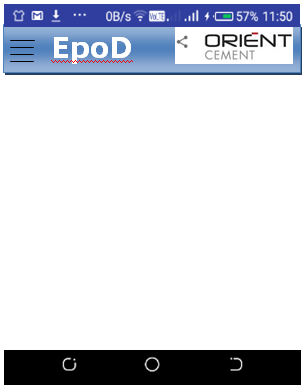
**Comments \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Validate OTP \_\_\_\_\_\_\_\_\_\_\_**

**Request OTP**

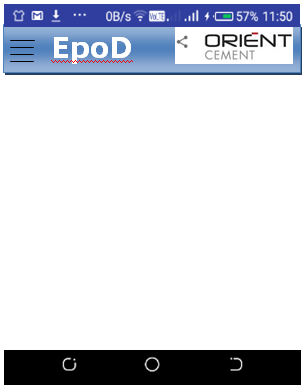
**NEXT**





**SCAN LR**

**SUBMIT**



**Deliveries**

**Review Disputes**

**Raise**

**Tickets**

**Pending Confirmation**

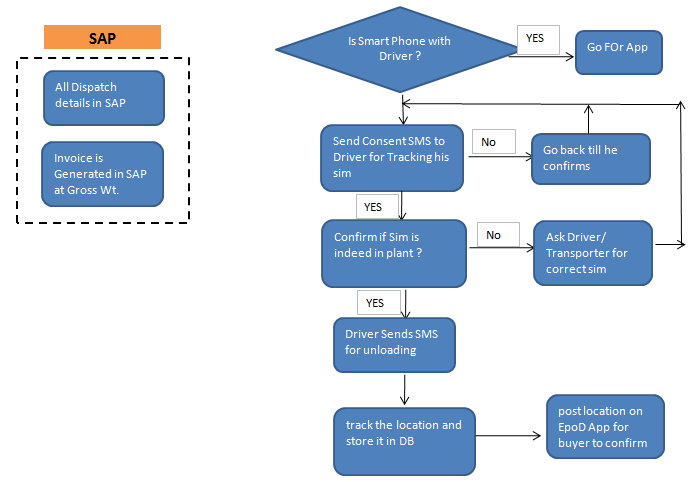
**Dashboard Summary**

**Trips in Transit**

**BILLING PORTAL WORKFLOW**

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**SIM TRACKING WORKFLOW (Screen to transporter rep to mark if driver has smart phone / not along with mobile no against every invoice + truck)**

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