

# GSMA Open Gateway Testing and Certification for CAMARA TSC

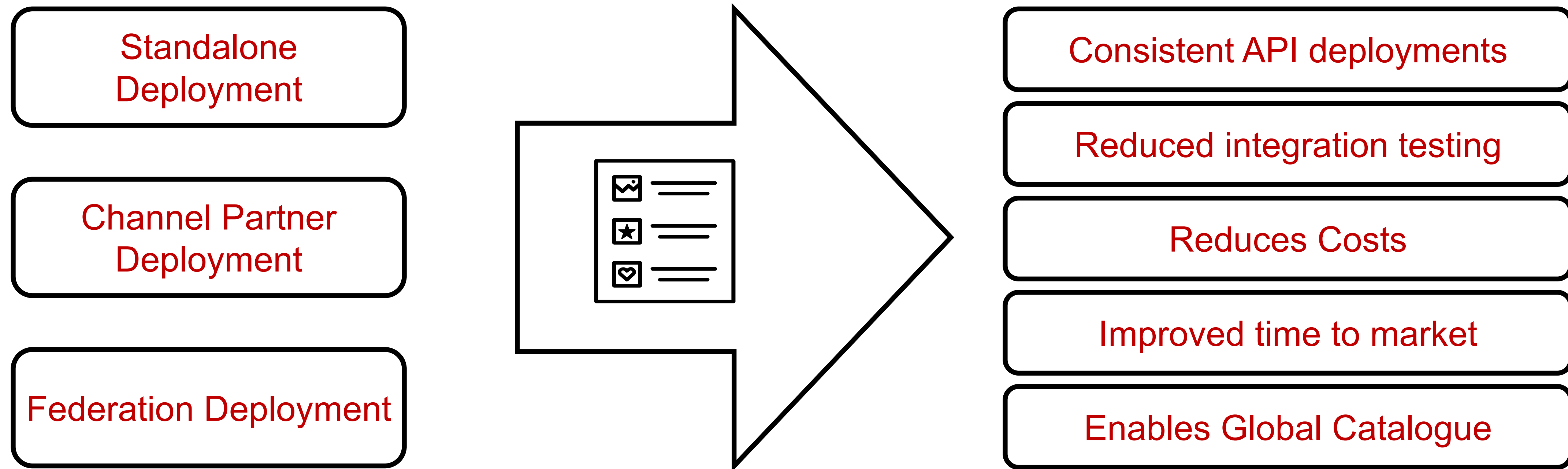


# Open Gateway Compliance North Star

A developer should only need to change their credentials for global mobility



# Powered by Open Gateway - Certification



Pure adoption of CAMARA APIs  
Initial flexibility on Authorisation Flows  
Definitive Migration to 3 leg flows for user data

# What is Certification?

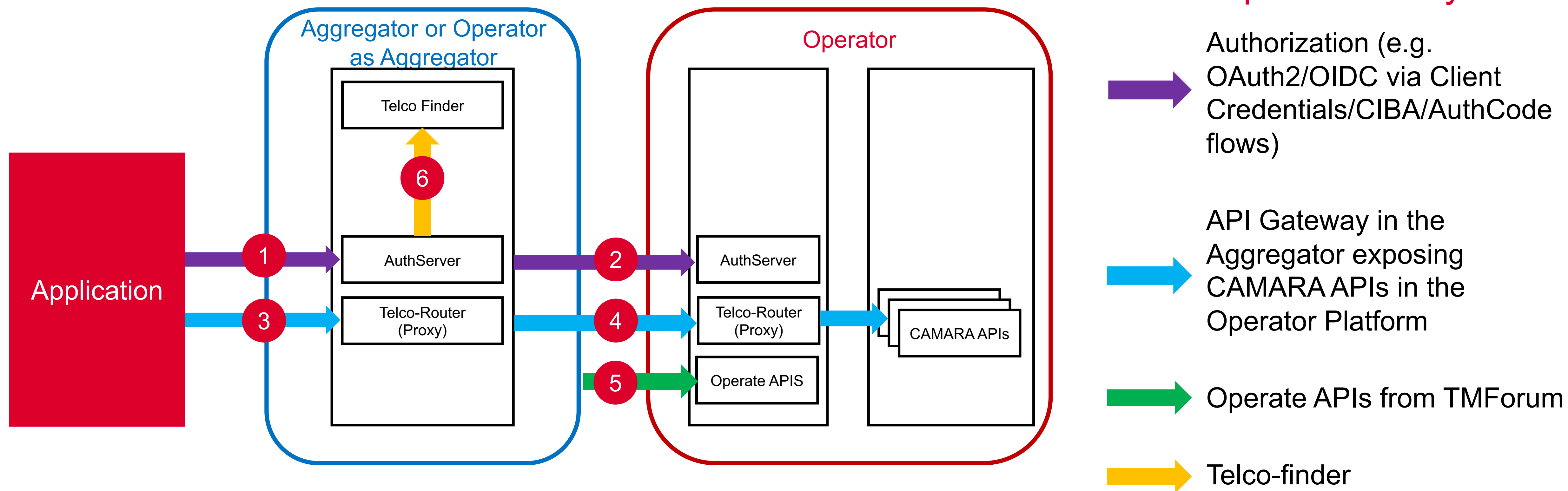
## It is.....

- Key to Open Gateway
- To ensure all APIs are identical
- Testing CAMARA API compliancy
- Testing to enable global Telco Finder API Catalogue
- Testing to enable global Telco Finder – Routing
- Fair test scope, balanced approach

## It is not.....

- Penetration testing
- Performance testing
- Service Assurance testing
- End to end testing
- Testing aggregator experience
- Testing operator onboarding process
- Certification of TMF APIs

# Interfaces for Certification



**Initial Focus on flows 2 and 4**

# Technical details

- **Definition** of test cases written in Gherkin syntax
- Test cases sourced from CAMARA where available
- **Input** data required from Operators
- Partners provided with test data creation form
- **Implementation** in Postman
- Automated validation using Postman scripting assertions. Sharable assets.
- **Execution** via Newman CLI – allowing test data as input
- Clear separation of test case implementation and partner data

## SIM Swap

```
Scenario: Successfully check whether SIM has been swapped in last 24 hours
Given An MSDISDN whose SIM has been swapped in the last 24 hours
And the associated account holder has provided consent
When the SIM Swap Check API is invoked with a max age of 24
Then the response body should indicate that the swapped status is true
And the HTTP response code should be 200
```



```
POST {{host}}/sim-swap/v1/check

Params Authorization Headers (9) Body Pre-request Script Tests
1 pm.test("The response has all properties", () => {
2   const responseJson = pm.response.json();
3   pm.expect(responseJson.matched).to.be.true;
4   pm.expect(pm.response.code).to.eql(200);
5 });
```



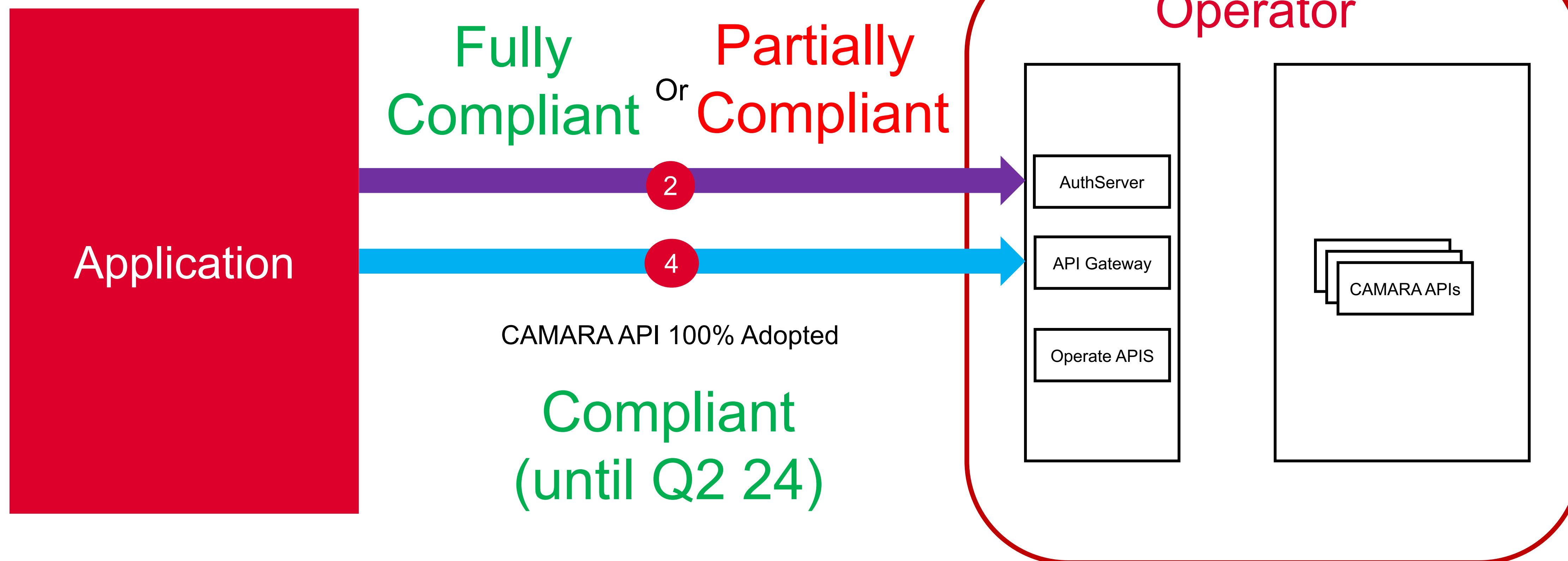
	executed	failed
iterations	1	0
requests	8	0
test-scripts	18	0
prerequisite-scripts	14	0
assertions	14	1
total run duration: 721ms		
total data received: 2.13KB (approx)		
average response time: 39ms [min: 7ms, max: 133ms, s.d.: 50ms]		

# Technical details

- **Test frequency:** Major and Minor versions (TBC).
- **Environment:** Pre-prod or Prod.
- **Dates:** Operators to book test window with GSMA in booking test plan so that test environment can be booked for testing. Avoid inter-project contentions for test environment.
- **Dependencies:** Test data, credentials, environment access.
- **Further understanding required per operator:**
  - Test data limitations
  - Consent management; on-net vs off-net requirements
  - Authorization flows (what will be the auth device in a backend CIBA flow? Frontend redirection app requirements)

# Certification approach

Authorisation flow according to CAMARA post Q2 24





# Testing Matrix

API	Function	Fully Compliant Flow (tbc)
Device Location	Location Retrieval	CIBA
	Location Verification	CIBA
	Geofencing Subscriptions	CIBA
Carrier Billing Checkout	One Step Payment	Authorisation Code
	Two Step Payment	Authorisation Code
	Payment	Authorisation Code
	Payment Notifications	Authorisation Code
Device Status	Device Roaming Status	CIBA
	Device Status Event Subscription	CIBA
	Notification Callback	CIBA
Quality On Demand	QoS Sessions	CIBA
	QoS Profiles	ClientCredentials
Sim Swap	Retrieve Date	CIBA
	Check	CIBA
Number Verification	Phone Number Verify	Authorisation Code
	Phone Number Share	Authorisation Code
OTP Validation API	OTP Management	ClientCredentials
Device Identifier	Get Device Identifiers	ClientCredentials

## Certification per API

Until End Q2  
100% Adoption of the CAMARA definition  
Any standard Authorisation flow

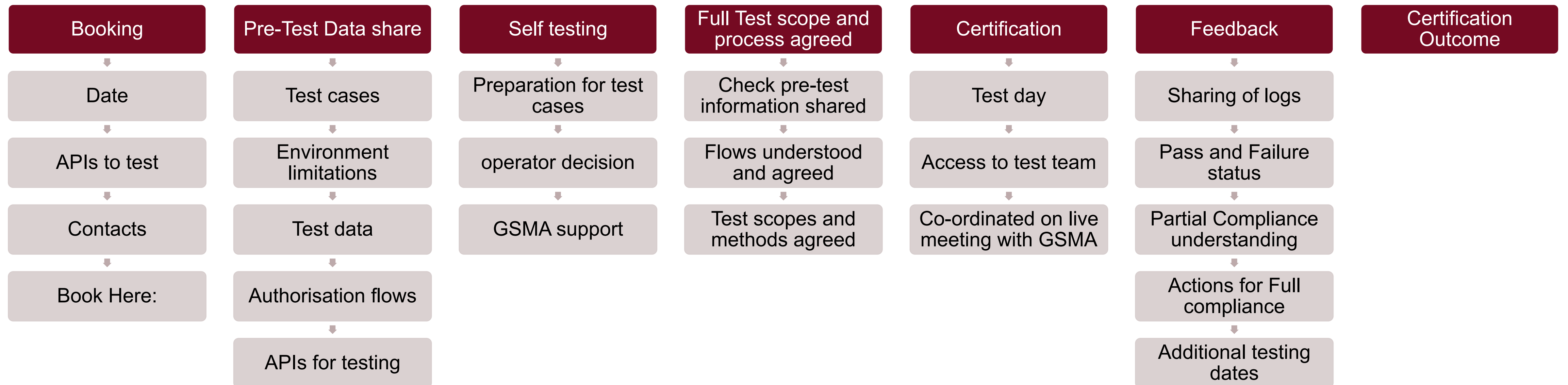
Compliant

From Q3  
CAMARA API Definition and  
CAMARA Authorisation flow adopted

Fully Compliant

# Testing Process

## Iterative Balanced certification program



# Testing Issues and demo



# Common testing issues

- Range of authorisation methods being used (tightening testing in Q3)
- Specification of authorisation is not detailed enough (being fixed)
- Not all operators are supporting all inputs (MSISDN, IP4, IP6)
- Additional fields in API request
- Custom error responses e.g. 401
- CAMARA documentation not detailed enough in certain cases (eg sim swap no swap)
- Error code when input parameter not supported is not clear (MSISDN, IP4, IP6 etc)
- Field Patterns and ranges are not always validated to check if out of range
- X-correlator behaviour is not clear to operators from reading the specification only. Design guidelines contain more details. Leads to differences. Operators not reading the design guidelines in parallel.
- Operators not always developing to latest standards. (Old versions being used)