

Impact sociétal de la chute du brut sur les activités pétrolières et para pétrolières



**Le Contenu Local – OFON OFQ expérience
“W.African Local Content – the OFON2 LQ”**

EIFFAGE Métal

20 years experience as constructors/EPC for platforms, structure, esp. West African projects for TOTAL E&P including:

Cobo (Angola) COB 1 Prodn. Platform (11 kT)

- 1995-1996

Amenam (Nigeria) AMQ LQ Topside – (2 kT)

- 2001-2002

Cobo 2 Gas Lift Module (500 T)

- 2003-2004

Rosa Lario (Angola), Girasol extension FPSO Modules + tie-in structure –(3.7 kT)

- 2005-2006

Anguille (Gabon) AGMN Wellhead Platform topside, jacket & piles(4,1 kT)

- 2010-2011

OFON 2 (Nigeria) OFQ LQ Platform (6,8 kT incl. LQ Topside, jacket & piles) – **High Nigerian content**

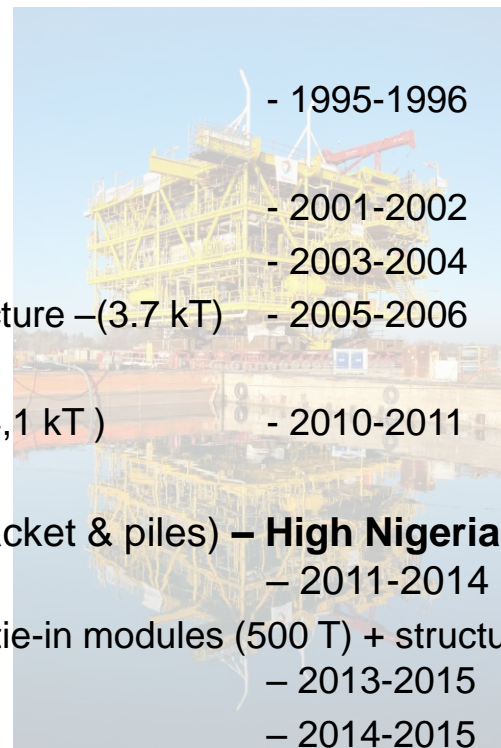
– 2011-2014

Moho Phase 1bis (Congo) – Alima FPU modif - Separation & HIPS tie-in modules (500 T) + structures (260 T)

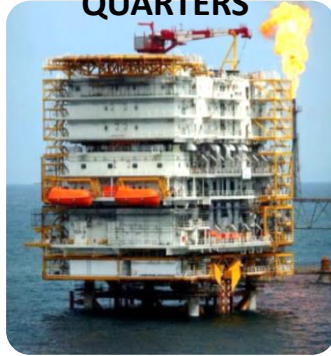
– 2013-2015

Kaombo (Angola) SURF LBL Frames (230 T)

– 2014-2015



**2011-2014
OFON - NIGERIA
EPCC OFQ LIVING
QUARTERS**



**2010-2011
ANGUILLE - GABON
EPCC AGMN WELLHEAD
PLATFORM**



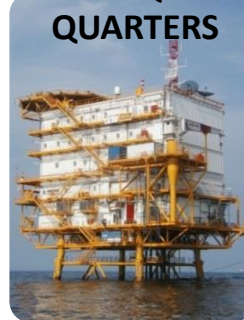
**2005-2006
ROSA – GIRASSOL FPSO MODIF.
- ANGOLA
FABRICATION OF MODULES**



**2003-2004
COBO – ANGOLA
FABRICATION GAS LIFT
MODULE**



**2001-2002
AMENAM – NIGERIA
EPCC AMQ LIVING
QUARTERS**



**1995-1996
COBO – ANGOLA
EPC COB P1 PRODN.
PLATFORM**



Local Content

- Q: Opportunity or Industrial Risk ?
- A: Both!
- Risk reduction = long term preparation, high resource investment, high level oil company cooperation; reliable & train-able local partner, initially (?) higher cost, longer completion (vs established fabrication)

EIFFAGE Metal – High Local Content Experience – OFON OFQ

- Compliance with Nigerian Law

NIGERIAN OIL AND GAS INDUSTRY CONTENT DEVELOPMENT BILL, 2010.

- Result 3 fabrication sites:
 - Fos-sur-Mer, France – EIFFAGE Métal Yard
 - Lagos - NigerDock Yard
 - Port Harcourt – AVEON Yard
- Engineering & Procurement in France & Nigeria – EIFFAGE + OOPE



Description of OLQ

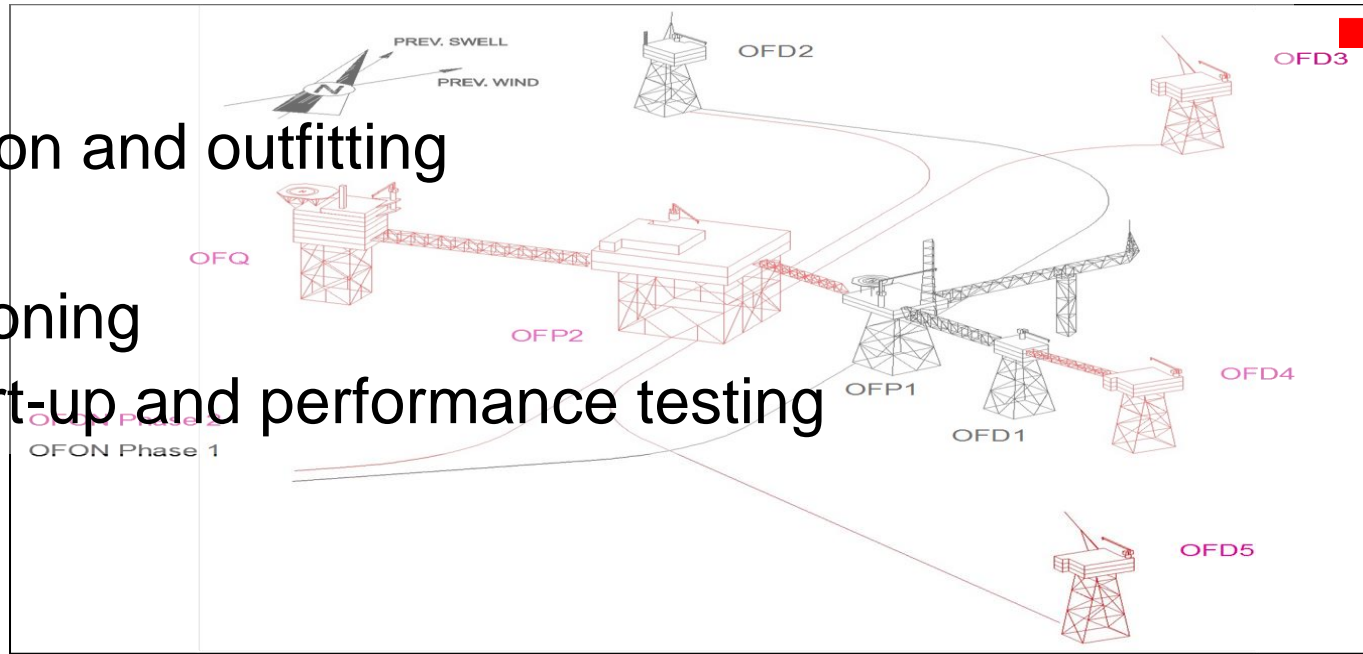


- Jacket supported platform
- Spider deck, 6 decks in 3 modules, helideck
- Topside to provide accommodation & full facilities for 140 POB
- Central control room in LQ - operation full OFON field
- Designed to 2004 SOLAS consolidated standards
- On-board production of air conditioning, water and wastewater utilities, backup emergency diesel generator
- Bridge connected to OFP2 production/processing platform

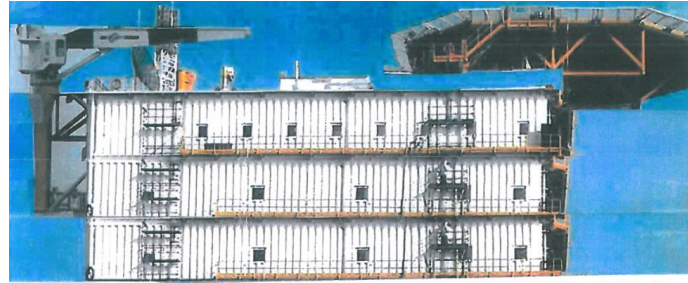
The OFQ Project

► EPCC new-build offshore living quarter platform:

- engineering
- procurement
- supply
- construction and outfitting
- hook-up
- commissioning
- assist start-up and performance testing



OFQ Scope Split



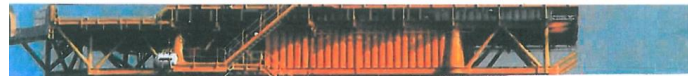
France - Nigeria
Helideck



Upper Module
Accommodation



Intermediate Module
Control Room



Lower Module
Technical Rooms



Spider Deck

Jacket + Piles



OFQ Structure - Scope Split Details

- Helideck for Sikorsky S-92 - AVEON Pt. Harcourt
 - Upper LQ Module (3 floors) - Fabrication steel building - NigerDock Lagos
 - Outfitting LQ module (2 floors) - NigerDock Lagos
 - Intermediate Module - central control room, field offices, mess facilities, laundry, change+break rooms - EIFFAGE Fos-sur-Mer, France
 - Lower (Tech) Module mechanical + electrical + telecom rooms, emergency power & water heating system - EIFFAGE Fos-sur-Mer, France
 - Spider (Utility) Deck utilities – fabrication & fitting out water maker, fire water system, and sewage treatment plant - AVEON Pt. Harcourt
 - Jacket and Piles fabricated - AVEON Pt. Harcourt
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- All with PM & technical support of EIFFAGE doubled with OOPE



Nigerian Content Objectives

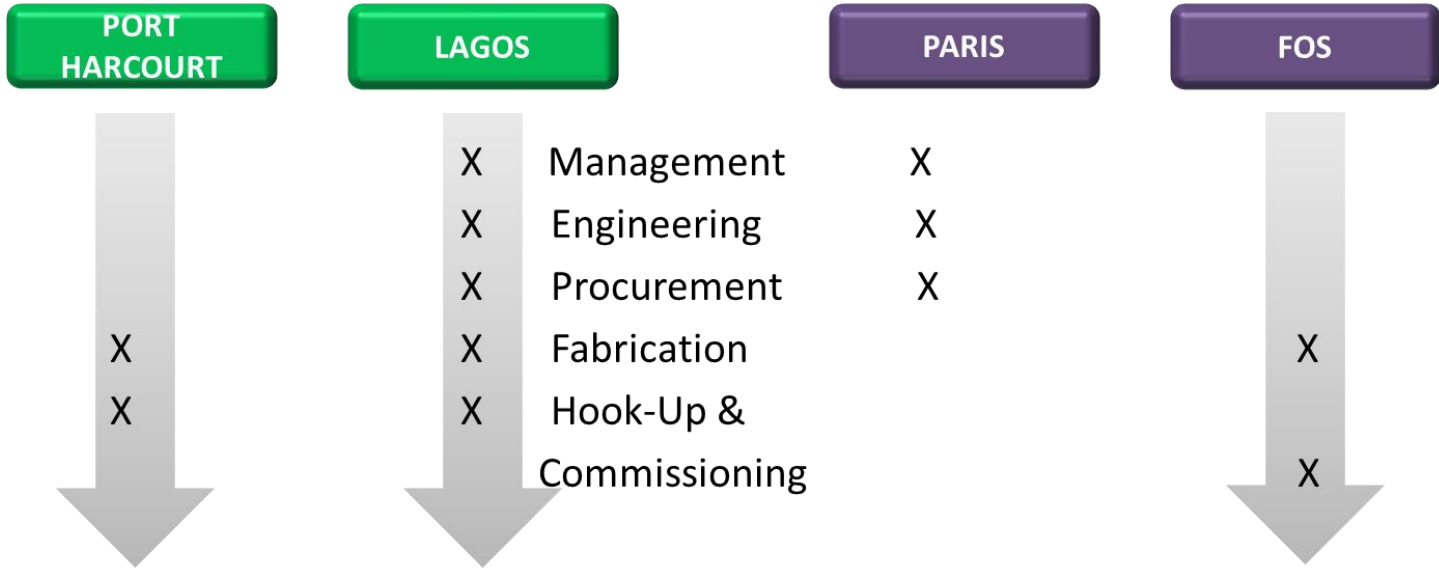
- Improve level of Nigerian participation in all aspects of the Project
- Increase the pool of in-country available technical / project professionals through training programs
- Meet OFQ Project contractual terms for Nigerian Content



Nigerian Content Challenges

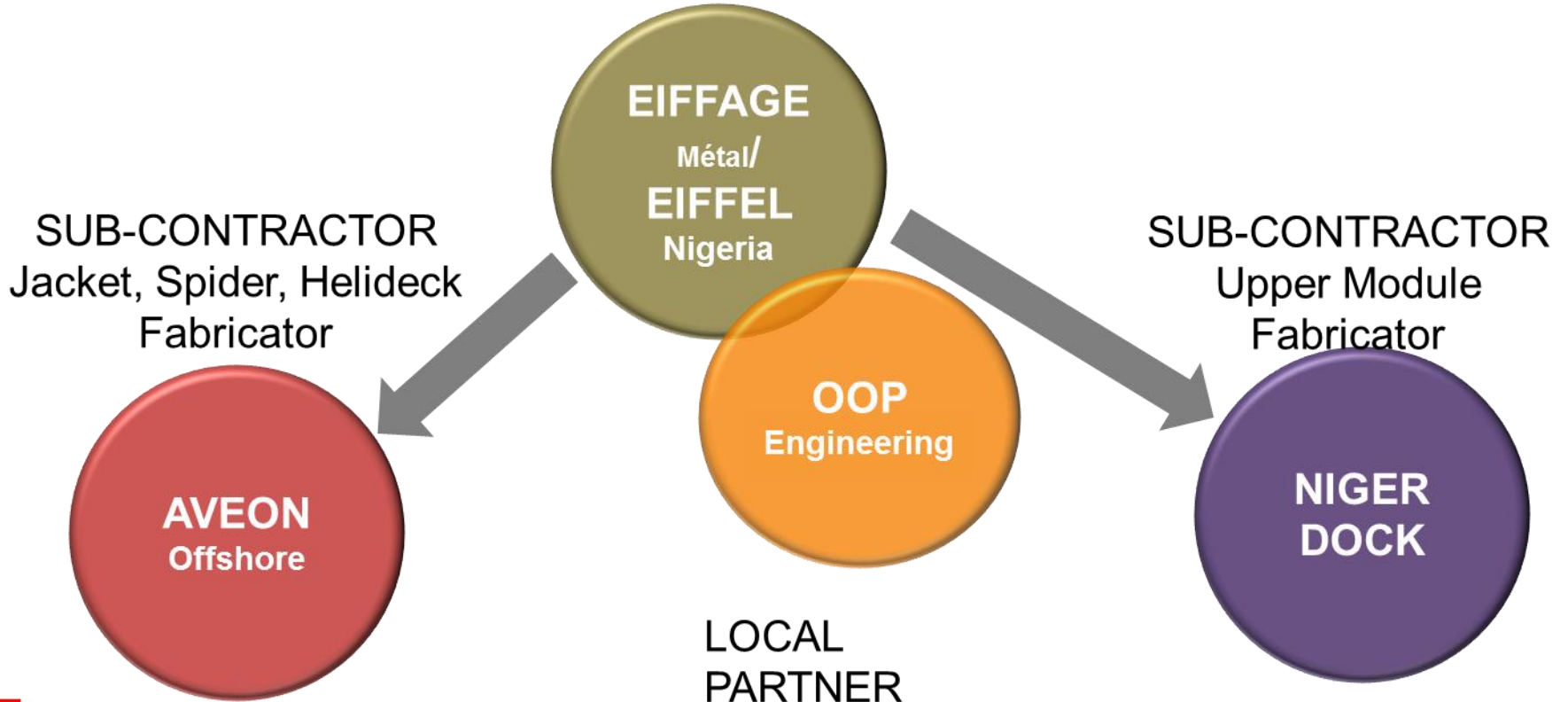
- First accommodation/living quarter package largely in-country fabricated
- Largest accommodation/living quarter ever installed in Nigeria - additional technical complexity with full OFON field controlled from LQ
- Develop new in-country disciplines for LQs - HVAC, architecture, E&I engineering
- 100% LQ outfitting performed in Nigeria
- Developing Nigerian EPC capability to construct future LQs

OFQ Execution Strategy





Contract Organization



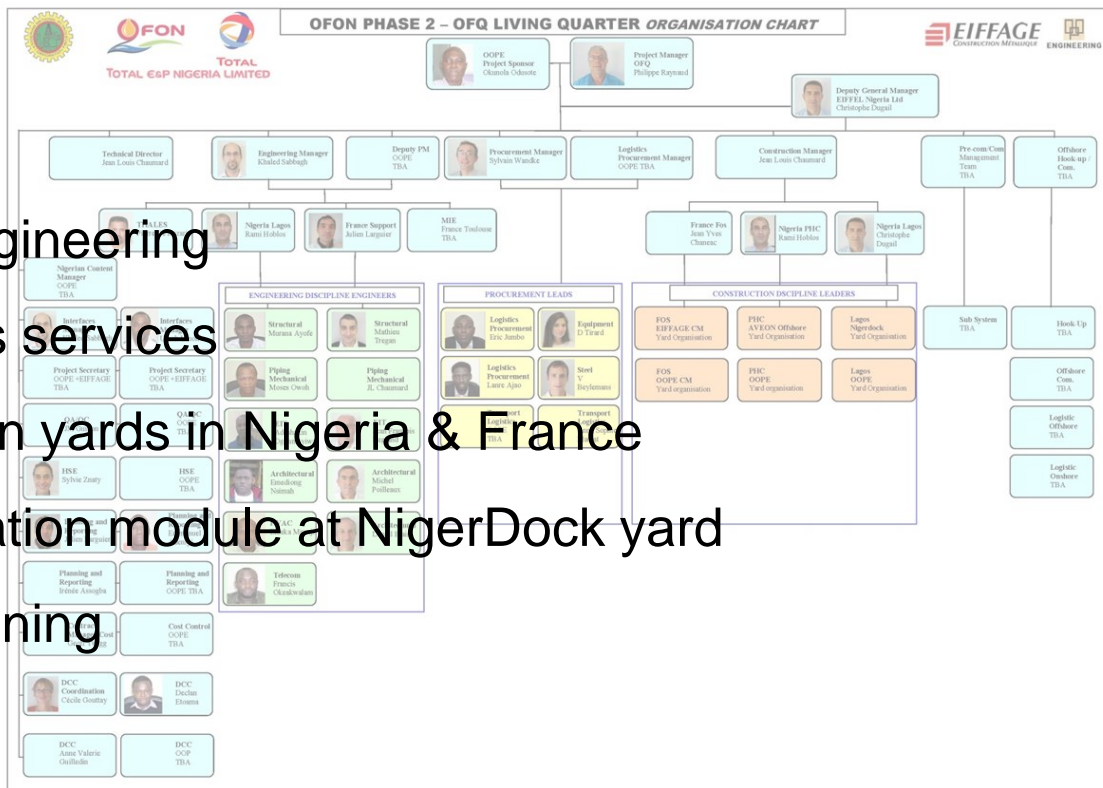


OFQ Nigeria Manhours & Value

	OOPE/ EIFFAGE	NIGERDOCK	AVEON	TOTAL
Management	80 000	30 000	40 000	150 000
Engineering	60 000	40 000	60 000	160 000
Training for Engineering	30 000			30 000
Fabrication		300 000	600 000	900 000
Outfitting	40 000			40 000
Training for Outfitting	40 000			40 000
TOTAL	250 000	370 000	700 000	1 340 000

1.34 Million Man Hours in Nigeria - approx. 200 MUSD Nigerian value

- ▶ Project management
- ▶ Document control
- ▶ Engineering & Detail engineering
- ▶ Procurement & Logistics services
- ▶ Supervision in fabrication yards in Nigeria & France
- ▶ Outfitting of accommodation module at NigerDock yard
- ▶ Hook-up and commissioning
- ▶ Training in France



Film OFQ – France & Nigeria - 8 minutes



OFQ Nigerian Content Result

#1 (+)

- ▶ Comparable quality to established LQ platform fabrication
- ▶ Delivered & commissioned within project's timeline (long!)
- ▶ Multitude of Nigerian skills developed for future LQ platforms & modules (Architecture, HVAC, E&I, Fire Protection...)
- ▶ Higher NC feasible with additional resources (management, supervision & training) to perform 100% of outfitting in Nigeria



OFQ Nigerian Content Result #2 (?)

- ▶ More expensive than established LQ platform fabrication (2x, 3x)
- ▶ Necessarily longer execution or quality/delayed start-up risks
- ▶ LQ module or platform considered lower overall project risk for Local Content
- ▶ Difficult to envisage high NC with fast-track or squeezed budget projects
- ▶ For Nigerian Authorities OFQ project success = strict requirement for comparable future projects to use Nigerian fabricated LQs

Local Content/Low Crude Price – Paradox

- ▶ In tough times oil companies request massive price reductions from fabricators /suppliers (15-20%) + yet local content costs (2x, 3x) = does not add up!
- ▶ Strict local content laws (e.g. Nigeria) + low crude price = blocked projects!
- ▶ No projects going forward = loses local skills acquired
- ▶ Relaxing local content (vs law) = loses local skills acquired
- ▶ Lost local skills = Next time start the local content learning curve again!
(again extra cost, delayed project completion/production)

Local Content/Low Crude Price – How?

- ▶ Or continue with modest Local Content Objectives, where the extra costs/slower deliveries do not bring down projects
- ▶ Try local content where there is more flexibility (among oil companies & governments), not strict laws yet! (e.g. Congo Brazaville)
- ▶ Find the right local partner & a product that is likely to get repeat business (keep work flowing though the shop, keep competences... be ready when the next busy period arrives)
- ▶ Becoming internationally competitive is a learning curve - the local shop/yard must keep engineering/constructing & by engineering/constructing they learn how to improve.

EIFFAGE Métal in Congo Brazaville - Local Content – How? #1

- ▶ EIFFAGE Métal local partner – Diane C & E – Modest fabrication for Moho Nord (for Bouygues Construction, Technip, TOTAL E&P) supported by EIFFAGE
- ▶ Continue with modest Local Content Objectives, where the extra costs/slower deliveries do not bring down projects – look for those niches (if Congolese industry does not develop there will be a Local Content law)

EIFFAGE Métal in Congo Brazaville

- Local Content – EIFFAGE Group Presence

- ▶ EIFFAGE Group - Within & outside Oil & Gas, 10+ years presence in Congo
- ▶ EIFFAGE RMT Clemessy: HV electrical supply for the Pointe Noire port
- ▶ EIFFAGE TP: 10 Million € contract Brazaville rain water drainage infrastructure
- ▶ Try to stay (not to come-&-go) – but everyone needs business to stay!