

# Huawei Integrated Single Sourcing Solution

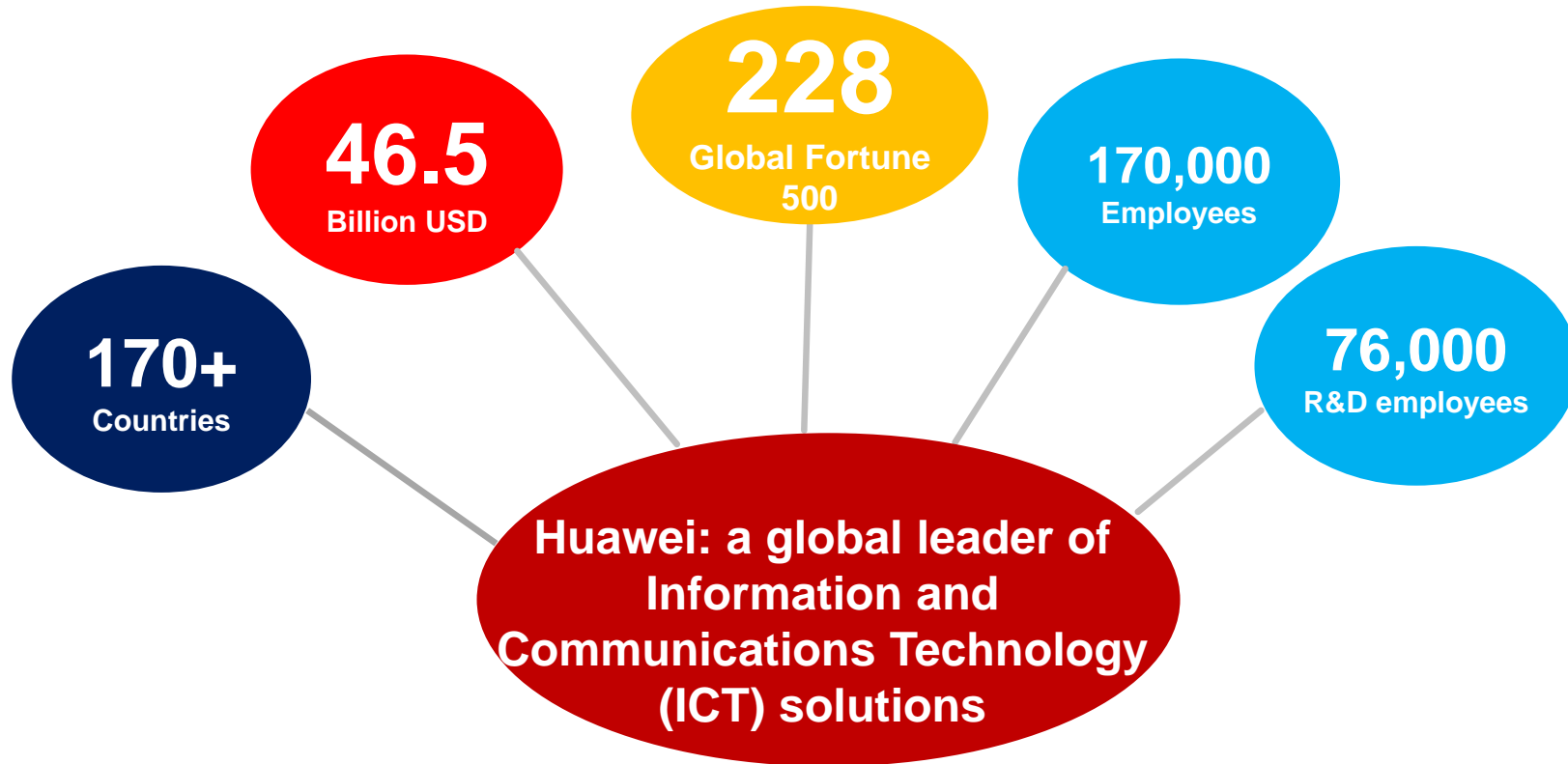
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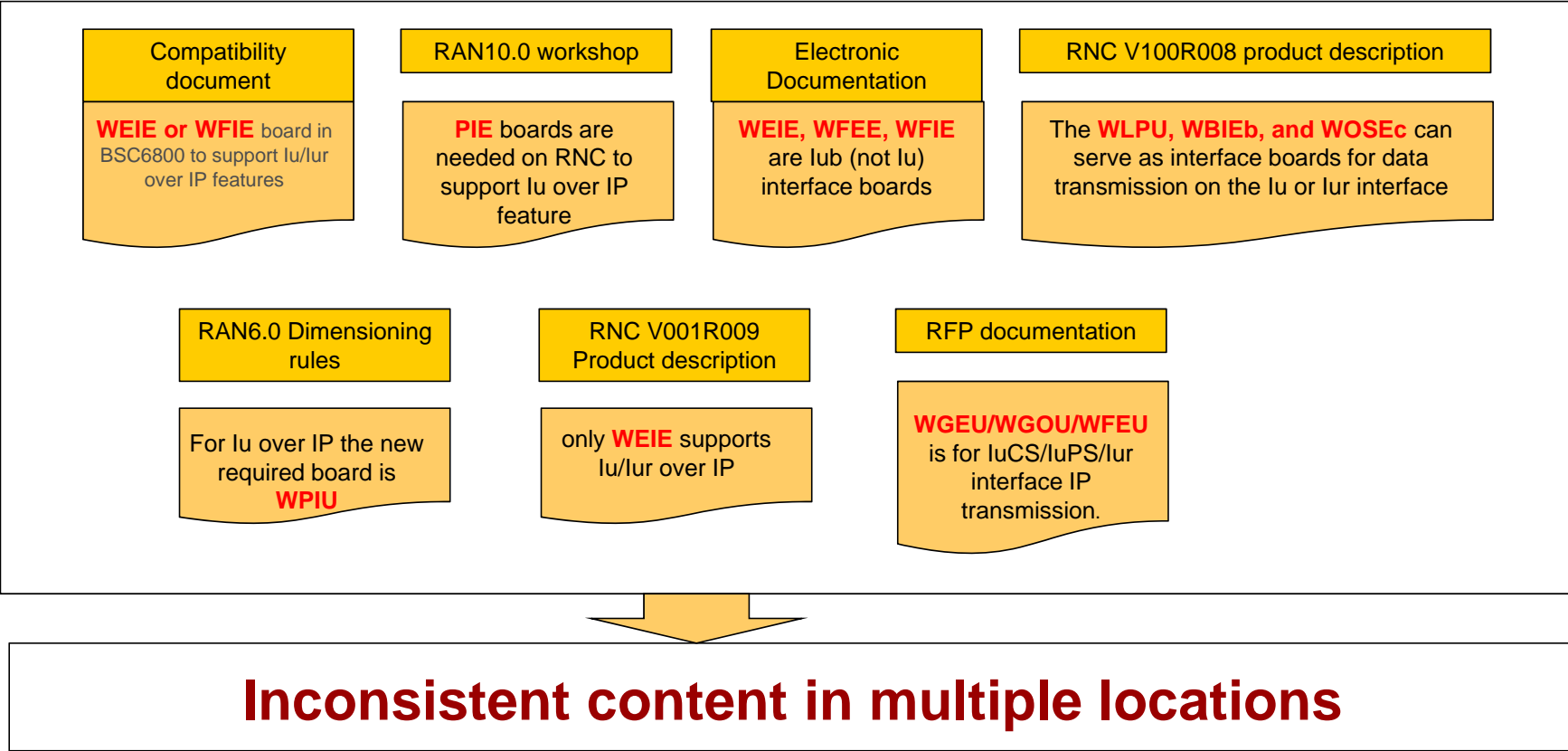
HUAWEI TECHNOLOGIES CO., LTD.



# Huawei at a glance



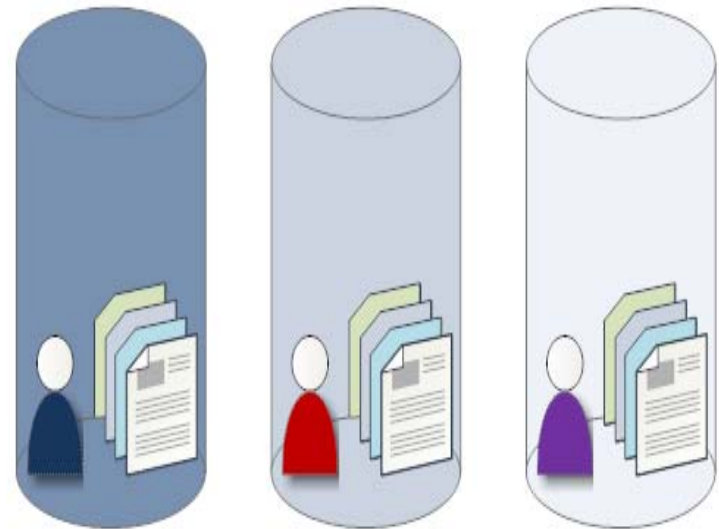
# Customer query: What board is needed to support lu-PS over IP !!



# Pain Points

- **Siloed documentation development.**
- **Documentation inability to keep up with product updates.**
- **Very time consuming to confirm and verify product data.**
- **Failure to deliver draft documents prior to product release**
- **Frequent customer complaints arising from inconsistent content.**

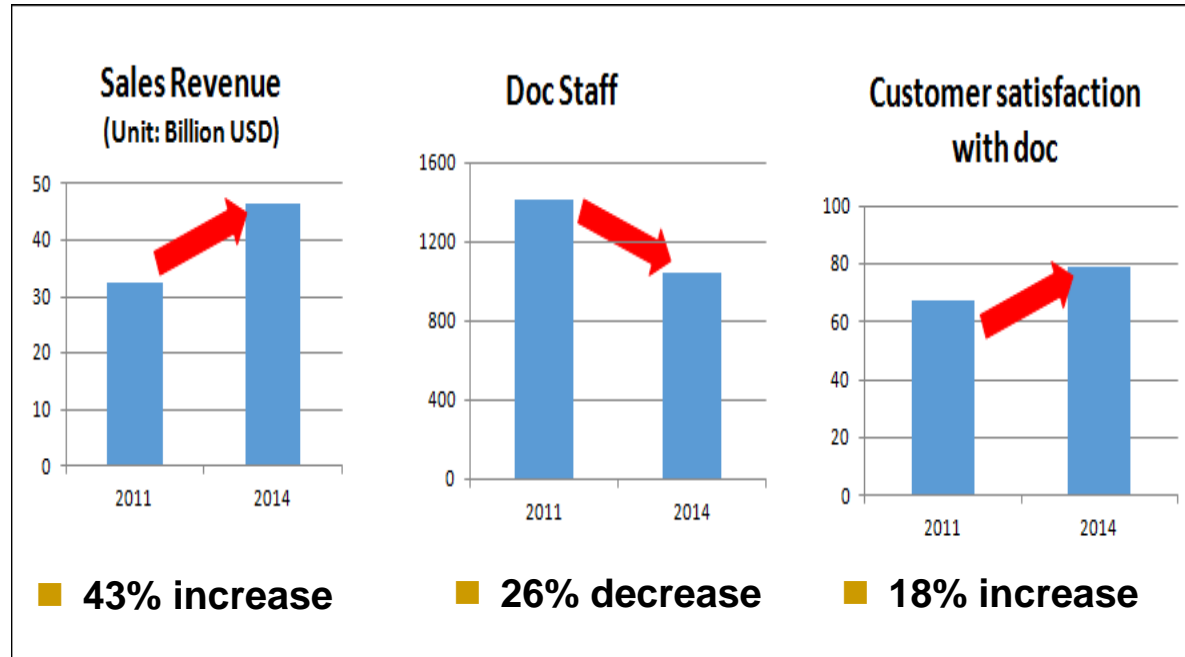
## Siloed Documentation Development



We initiated **Integrated Single Sourcing** in 2011

# Achievements – Efficiency

- Reusing **1.7 million** topics which are generated by more than **17,000** marketing executives, sales engineers, product developers, and technical writers.
- **70%** of feature documentation is sourced from design documents.
- **100%** of reference documentation is automatically sourced from the software development environment.
- Up to a **42% drop** of redundant topics using the annotated task list approach.



# Achievements – Accuracy, Consistency and Time to Market

- Content in documentation can be simultaneously and automatically updated along with ongoing product updates.
- Ensuring content consistency between different business domains, product families, product versions, pre-sale and after-sale documents, and document types.
- Release of draft documentation **at TR3 phase rather than TR6 phase**. Huawei Wireless business unit for example now releases draft feature documentation **20 weeks in advance** of product delivery.

Third party customer satisfaction survey



Year	CSAT with Huawei Documentation	CSAT with industry peers' Documentation	Difference
2011	67.2	72.9	-5.7
2014	79.0	71.6	+7.4

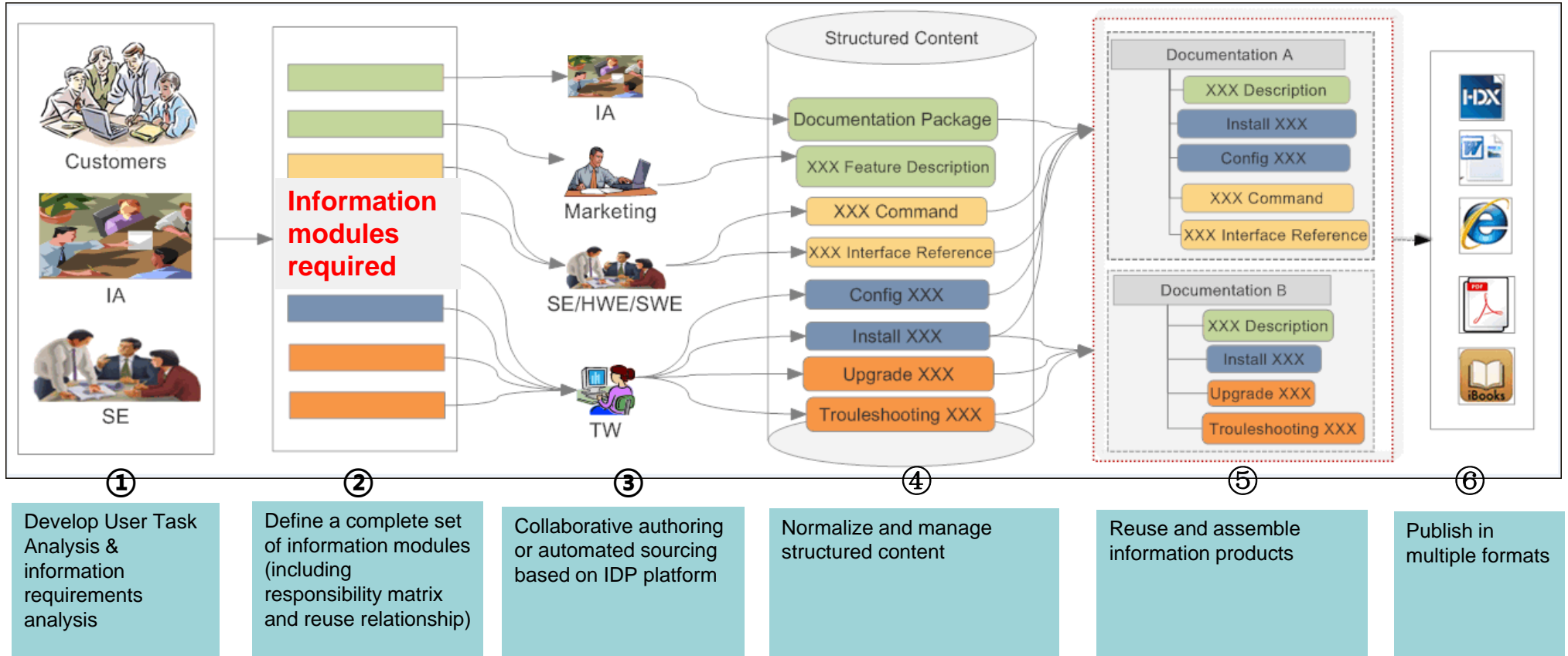
## Achievements – Awards & Leadership

- Huawei "Best R&D Transformation Project" award in 2013
- Huawei "Key Breakthrough in Transformation" award in 2014
- Input from industry experts such as JoAnn Hackos from Comtech Services, Ann Rockley from TRG and other North American documentation experts
- One of the top R&D transformation project
- Led by the Corporate Documentation Dept from 2011 to 2014
- Collaborated with a diversity of roles such as marketing, system engineers, product engineers, information architects, and technical writers.



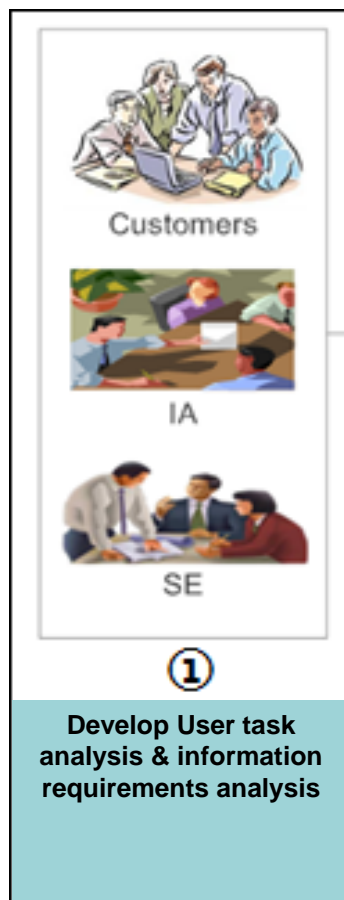


# How: Integrated Single Sourcing Process



# Phase 1: UTA and information requirement analysis

- IAs collaborate with system engineers (SEs) to create user roles and task models using the UTA and Minimalism methodology.
- Analyze the information requirements for each user role to fulfill a task.
- This method fully aligns documentation development with real user needs without missing critical information or retaining unnecessary information.



### Site Maintenance Technician Persona

**Common Job Titles**

- Field Engineer
- Field Technician
- Cell Site Engineer
- Maintenance Technician
- Field Operations Technician

**Job Description**

Conducts end field operations, repairs, maintenance expansions, and upgrades of cell site systems within the assigned geographical area. Troubleshoots and resolves customer complaints concerning technical performance problems. Responds to system failures with emphasis on resolving issues affecting cell site stability. Performs routine preventive maintenance according to schedules.

**Typical Education and Work Experience**

High school diploma or GED with a technical degree, 3-5 years of cell site installation and troubleshooting experience. Radio Frequency experience. Experience with wireless and data networking equipment. Written and verbal communication skills.

**Work Environment**

Works in the field. Work is physically demanding and includes climbing ladders, utility poles and transmission towers and balancing while working on them. Works in cramped, positions where they stoop, crouch, crawl, or reach high to do their work. Lifts heavy equipment. Work requires travel and irregular work hours. Works under challenging weather conditions, including snow, wind, rain, and extreme heat and cold.

**Typical Job Tasks**


- Onsite maintenance of assigned cell sites to ensure network reliability.
- Responds to cell site alarms and dispatches for assigned or on call sites for troubleshooting and network restoration activities.
- Performs routine preventive maintenance of equipment including inspecting and maintaining power systems, inspecting equipment, changing air filters, running system checks, and taking backups.
- Performs corrective maintenance on cell site equipment and auxiliary equipment.
- Performs inventory functions, such as receiving, assigning and tracking parts within the inventory management software program.
- Conducts inspection of facilities and documents results, including environmental conditions, fire suppression systems, work area organization, and alarm testing.

**Primary Documentation Reference**

Operation and Maintenance Guide  
Routine Maintenance Guide  
Parts Replacement  
Troubleshooting Guide  
Alarm clearing procedures  
Read work orders, blueprints, plans, datasheets, and site drawings.

**User Habits / Media Preferences**

Requires complete access to documentation. Prefers electronic delivery with extensive details that are searchable and useful. eBooks and media devices to store large amounts of information in small mobile delivery. Ease of access and current fast updated information.



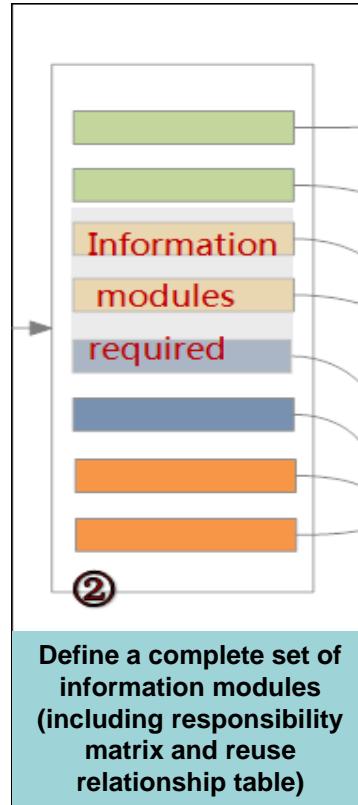
**"MOPs, Parameters and KPIs documents need more detail."**  
Field Technician, Chinal  
Huawei Wireless Customer

HUAWEI US DOCUMENTATION PROFESSIONAL SERVICES TEAM SLIDE 25

Task Oriented Modular Design Table						
UTA Input			Topic Title (Information Requirement)			
Group	Subgroup	Task List	Task Topic	Concept Topic	Reference Topic	Related Topic
Periodic Site Inspection / Preventive Maintenance						
		Inspecting the Equipment Room Environment	Inspecting the Equipment Room Environment		Maintenance Items of the Equipment Room Environment	Maintenance Items of the Equipment Room Environment
		Inspecting the Equipment /	Inspecting the Equipment		Maintenance Items of the XXX Equipment	Maintenance Items of the XXX Equipment
		Inspecting the Equipment for XXX	Inspecting the Equipment for XXX		Maintenance Items of the Main Components	Maintenance Items of the Main Components XXX board LED indications

## Phase 2: Information modules (including responsibility matrix and reuse relationship)

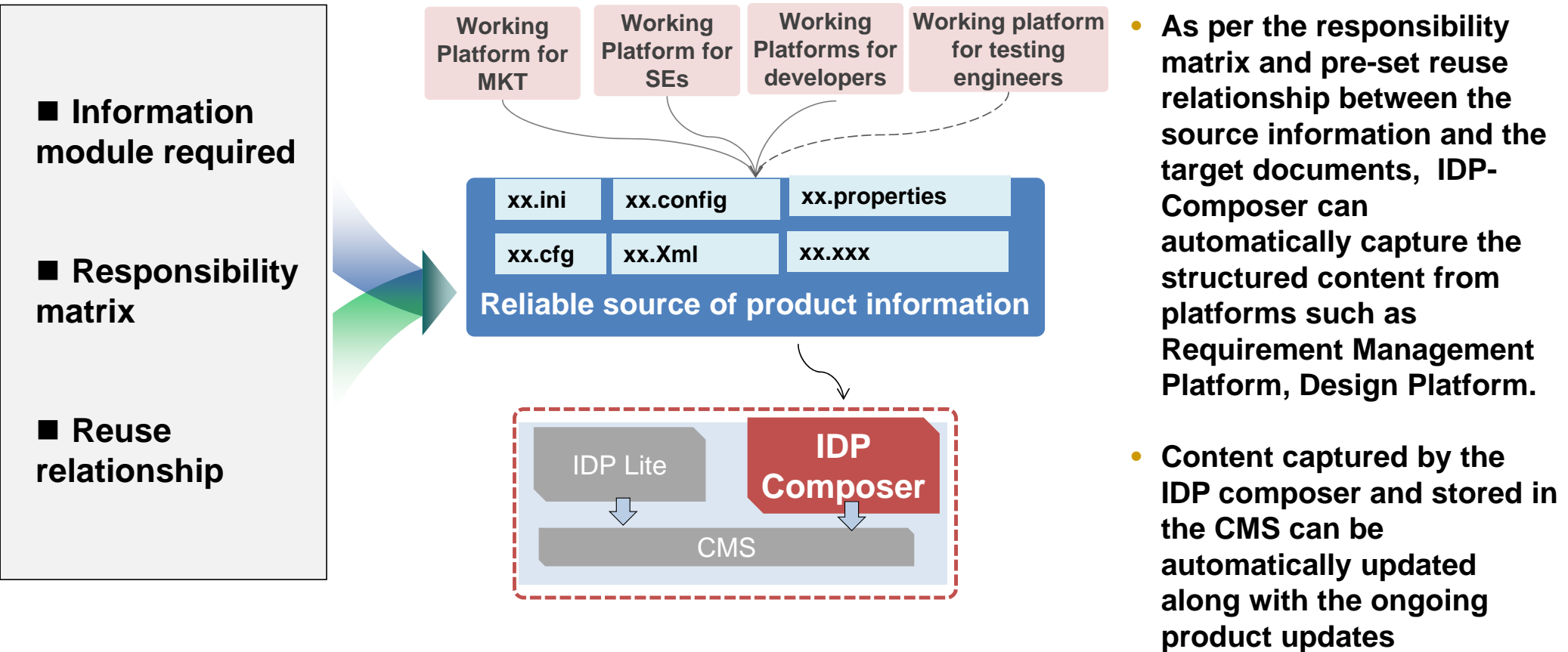
- IAs define a complete set of information modules, including a responsibility matrix and reuse relationship table.
- The responsibility matrix shows topic owners and the corresponding phases during which these information modules need to be developed according to Huawei's Integrated Product Development (IPD) process.



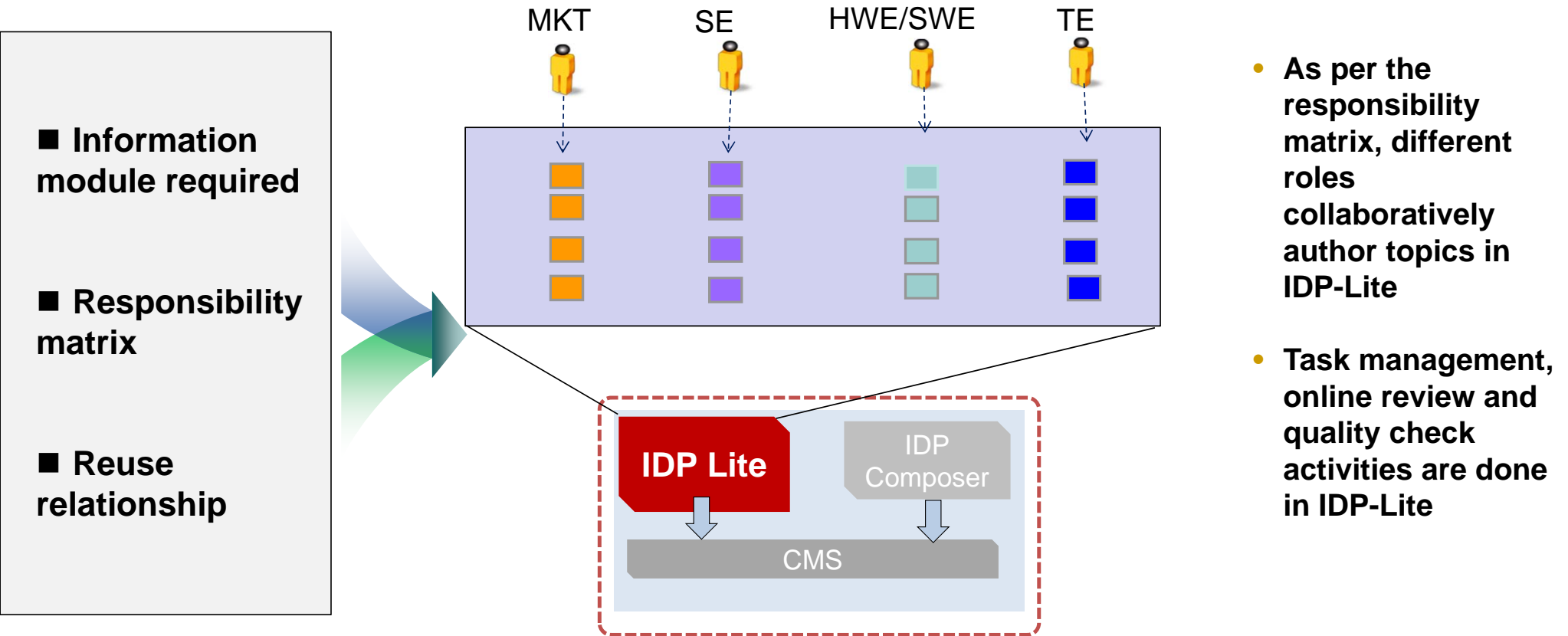
Topic List						
Group	Topic Title	Topic Owner	Development Phase	Info Type	Audience	Metadata xxx
xxx	xxx	MKT:xx				
	xxx	SE:xx				
	xxx	TW:xx				

Product		Reuse Relationship						
		Feature Design Documents		Feature Customer Documents				
SRAN8.0	ERAN6.0	Feature Requirement Analysis	Function Design	Feature Overview	Feature Description	Feature Guide	Release Notes	Training Material
		YES		YES	YES			YES
		YES	YES			YES		YES
						YES		YES

## Phase 3: Automated sourcing based on IDP-Composer tool



### Phase 3: Collaborative authoring based on IDP-Lite tool



# Collaborative authoring based on IDP-Lite tool

The screenshot displays the 'Manage Document' interface of the IDP-Lite tool. It features a navigation bar with 'Home', 'Support...', and 'testing' tabs. Below the navigation bar are buttons for 'Set Node Owner', 'Set Document Owner', 'Other Settings', and 'Set Ditaval'. A toolbar includes options like 'Show Heading 1', 'Set Owner', 'Add Owner', 'Remove Owner', 'Import Owner', 'Export Owner', 'Mail Notification', 'Notification Schedule', 'Mark As', and a 'Progress' indicator at 40%.

	Author	Owner	Authoring Status	Last Modified
1 Library Information	wanxiaoyu 00221992,	wangxudong 00152094,	Not Started	2015/08/25 16:34:54
2 Introduction to GBSS/RAN Feature	wanxiaoyu 00221992,	wangxudong 00152094,	Not Started	2015/08/25 16:34:54
3 Description	lvxinquin 00175965,	wangxudong 00152094,	Authoring	2015/08/25 16:34:54
4 Feature Delta Information	wushaoshuo 00105754,	wangxudong 00152094,	Authoring	2015/08/25 16:34:54
4.1 Network Impact Report	wushaoshuo 00105754,	wangxudong 00152094,	Authoring	2015/08/25 16:34:54
5 Operation and Maintenance	chenghaitao 00136951,	wangxudong 00152094,	Completed	2015/08/25 16:34:54
6 Glossary	chenghaitao 00136951,	wangxudong 00152094,	Completed	2015/08/25 16:34:54

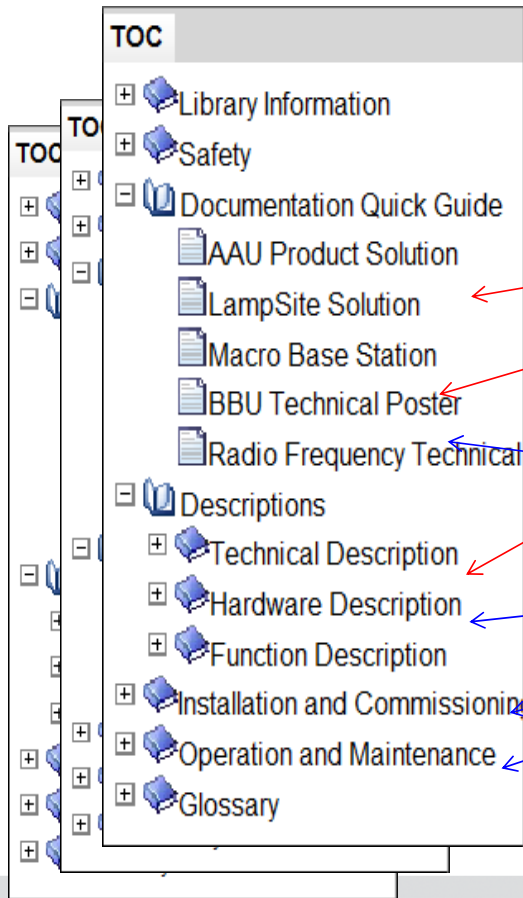
Annotations and callouts from the interface:

- Topics required as per the UTA analysis:** Points to the document tree on the left.
- Assign writing tasks to different roles as per the responsibility matrix:** Points to the 'Author' and 'Owner' columns in the table.
- IDP-Lite is connected with Huawei employee ID and mail system:** Points to the 'Authoring Status' column.
- Real-time status of deliverables:** Points to the 'Last Modified' column.

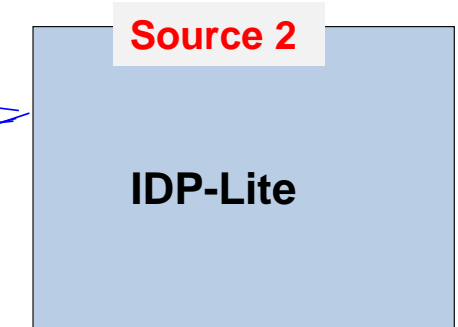
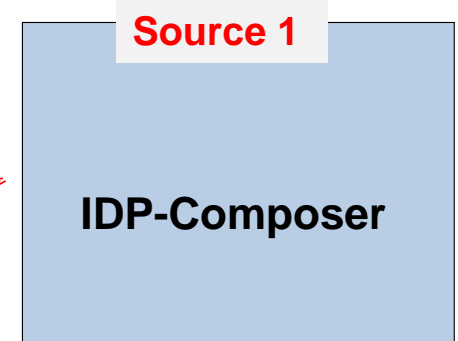
A callout box at the bottom left states: "Select a content template which includes the information modules required as per the UTA analysis".

# Content sources for a typical doc or doc package

- TOC and topics within a document or a document package, as per the UTA and information requirement analysis



- Content automatically captured from the interconnected IT systems such as Requirement Management Platform, Design Platform.



- Content collaboratively authored and reused by different roles on the IDP-Lite

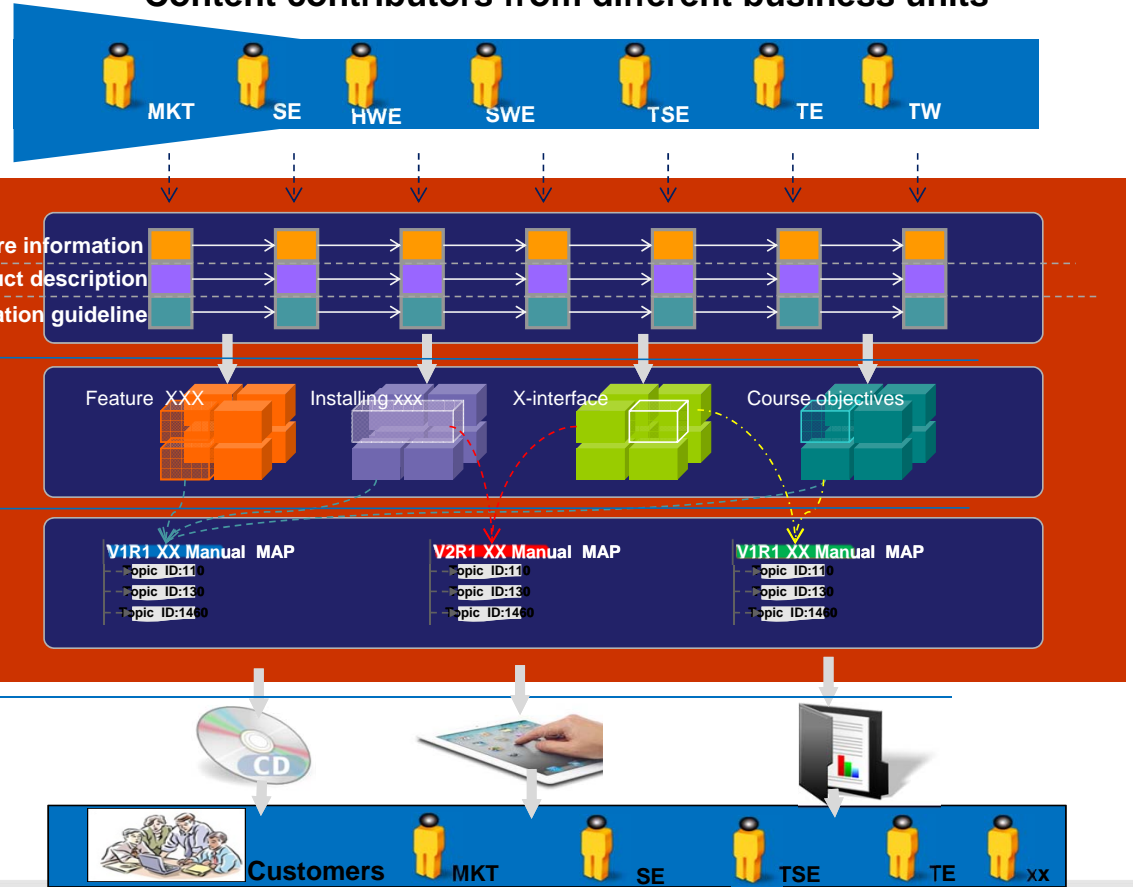
# Phase 4-6: Integrated IT solution for creating, managing, assembling and publishing content

- IDP-Composer for automated capture of structured information from interconnected IT system
- IDP-Lite for collaborative authoring

Content Management System

IDP-Publisher

Content contributors from different business units



All the roles involved in the product development lifecycle act as both contributors and beneficiaries of single sourcing.



## A complete set of guidelines and specifications developed to optimize collaboration and make single sourcing transferrable to multiple business units

	TR1	TR2	TR3	TR4	TR4A	TR5
	Information Requirement Analysis	Information Planning	Information Design	Information Development and Verifying		Information Publishing
<b>Integrated Single Sourcing Process</b>						
<b>UTA Guideline</b> <a href="#">Guideline</a> <a href="#">Training Materials</a> <a href="#">Templates and samples</a>	<b>Modularized Single sourcing Desgin</b> <a href="#">Guideline</a> <a href="#">Training Materials</a> <a href="#">Templates and samples</a>		<b>Minimalism Method and Guideline</b> <a href="#">Guideline</a> <a href="#">Training Materials</a> <a href="#">Templates and samples</a>			<b>Publishing Guidelines</b>
			<b>Structured Authoring Guide</b> <a href="#">Guideline</a> <a href="#">Templates and samples</a>			
	<b>Reuse Guideline</b>			<a href="#">Training Materials</a>	<a href="#">Templates and samples</a>	
	<b>Metadata Specifications</b>			<a href="#">Training Materials</a>	<a href="#">Templates and samples</a>	
	<b>Linking Specifications</b>			<a href="#">Training Materials</a>	<a href="#">Templates and samples</a>	
	<a href="#">Rules and Guideline</a>					
<b>Single Sourcing Metrics</b>						

# Questions?



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