


Business Resilience Management MetricStream Implementation Framework

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1. Organization Overview
2. Management Commitment
3. Challenges
4. Business Response
5. Business Resilience Model
6. Technical Response
7. MetricStream as an Enabler
8. Key Learnings
9. Audience Questions and Discussion

A large green thought bubble with three smaller circles leading to it from the bottom left. The text inside the bubble is white.

Risk Management is an
integral and critical
(and often invisible)
part of Good
Governance



1. Organizational Overview

Bahrain Petroleum Company (Bapco) is engaged in exploration and prospecting for oil, drilling, production, refining, distribution of petroleum products and natural gas, sales and exports of refined products. Established in 1929, Bapco contributes around 70% to the national economy. Its 268,000 bpd refinery process 60% of its crude pumped from Saudi Arabia's Abu Saafa offshore field via a 54 km pipeline, half over land and half sub-sea.

Refining Capacity	268,000 BPD
% Of Product Exported	Over 95%
Workforce	2270
% Bahrainization:	78%
Contribution to Economy	>70%

2. Management Commitment

Bapco is fully committed to its mission of managing and operating oil and gas business, supplying crude oil, petroleum products and gas to local and international markets with the aim of maximizing contribution to the national economy.

1. The company will exercise a high level of diligence in understanding and effectively preventing, reducing or managing risks to its business. Hence an Enterprise Risk Management Program is in place for the management of critical risks in all areas of the company.
2. Bapco recognizes the importance of having action plans if any of the threats to business materialize. Accordingly, Crisis and Business Continuity Management Plans will be developed for all high risk and critical areas of the company with effective readiness to react and a rapid capability to recover.
3. There will be management Oversight and an independent Internal and External audit program to verify due diligence in mitigating critical risks and that appropriate crisis and continuity response plans are developed, communicated and maintained

3. Challenges

1. Multitude of Risk Assessment techniques and procedures
 1. Hazops (Process and Projects)
 2. Business Continuity
 3. Risk Based Work Selection (Maintenance)
 4. Environmental Affairs
 5. Occupational Hygiene
 6. Fire, Health & Safety
 7. Incidents
 8. Internal/External Audits
 9. Compliance Assessment
 10. Strategic Planning and Projects
2. No formal “Business Risk Assessment”
 1. Independent Risk Assessments by business units
3. Several “Risk Mitigation Oversight” organizations
 1. EHS Committee
 2. Compliance Committee’s
 3. ...
4. Risk Mitigation and Risk Response strategies not integrated
5. Independent & standalone Crisis Management and Business Continuity Management Plans
6. Good business must be supported by good technology

4. Business Response

Principles

1. A standardized technique and process for Risk Assessment for technical or business risks
2. A structured and common approach to business risk identification, assessment, mitigation, tracking and reporting
3. All enterprise risks are covered: business, technical, compliance, strategic planning and information
4. Clear and demonstrable link between Risks and readiness to respond (Crisis and Business Continuity plans)
5. Risk Oversight process and organization, including Board of Directors is established with clearly defined roles and responsibilities

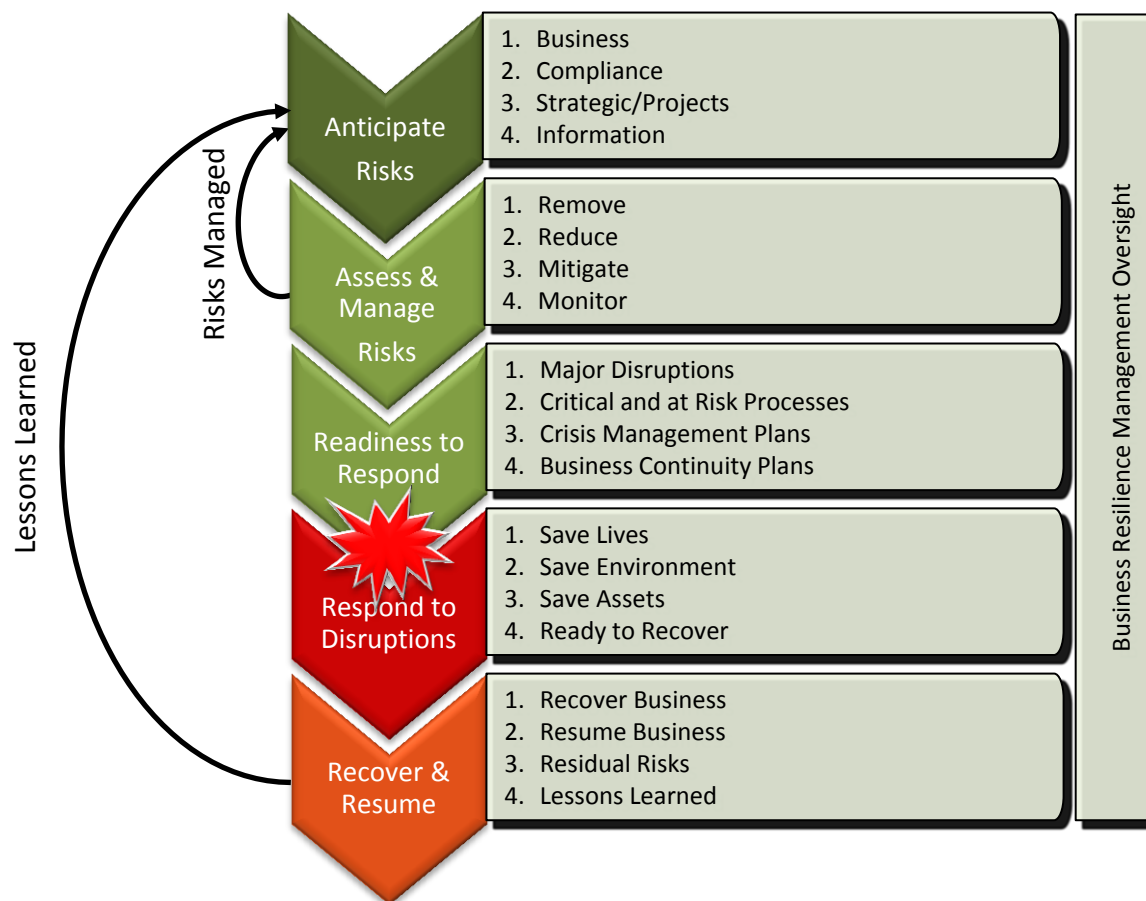
Steps

1. Business Risk Management (ERM) initiated in 2004
2. Standardized Risks Assessment method introduced in 2009
3. Standardized Business Continuity Planning method introduced in 2010
4. Unified Crisis and Emergency Response system developed in 2011 incorporating all old MIPs (Major Incident Plans) into one system (ICS)
5. A Business Resilience Model (incorporating ERM, CMP and BCP) developed in 2013
6. ERM Committee (from 2004) transformed to Business Resilience Management Committee and BoD charter amended to include BRM oversight in 2013

5. Business Resilience Model

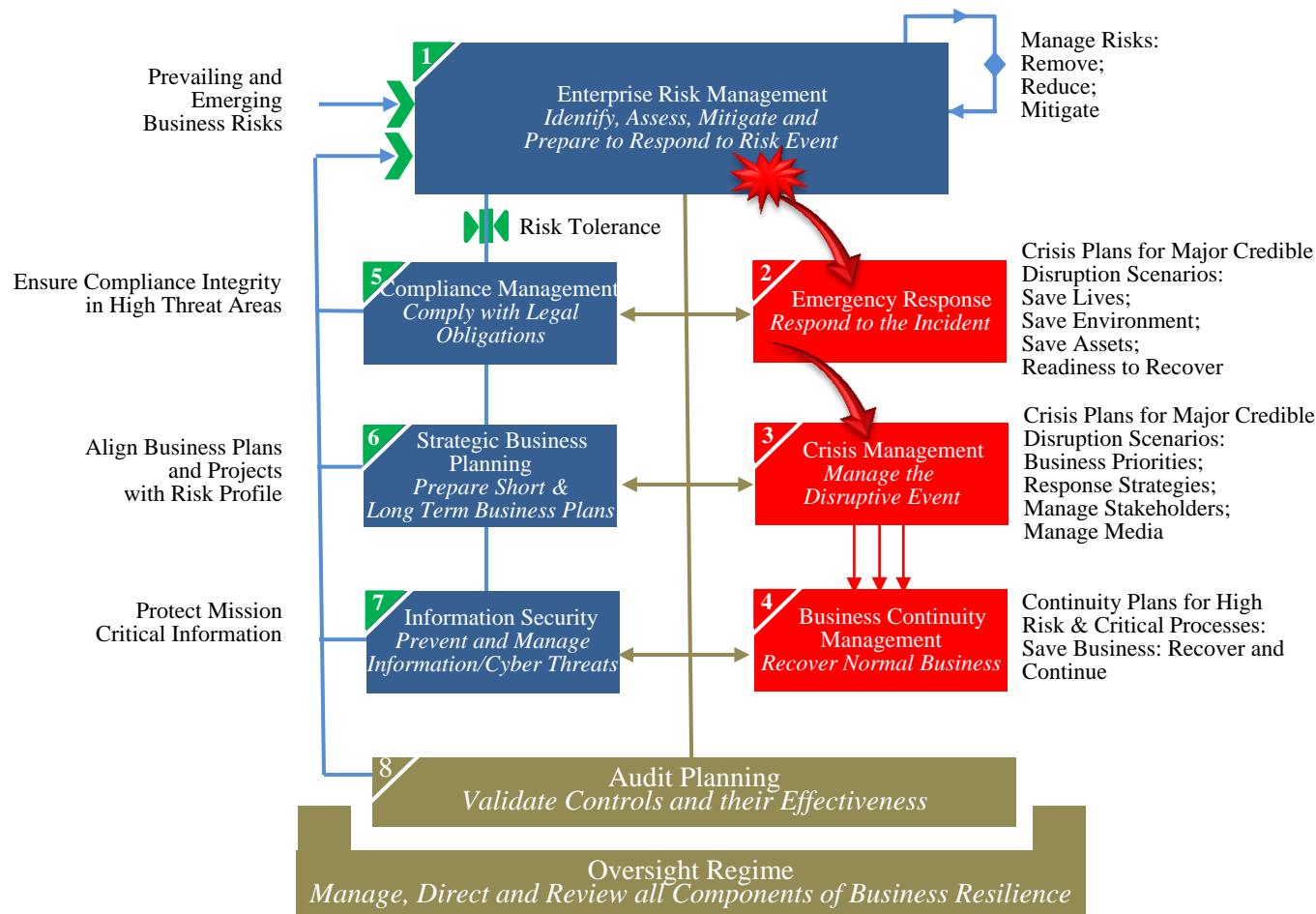
What is Business Resilience Management

“The ability of an organization’s business operations to rapidly adapt and respond to internal or external dynamic changes – opportunities, demands, disruptions or threats – and continue operations with limited impact to the business” ... IBM



5. Business Resilience Model

Eight Key Components

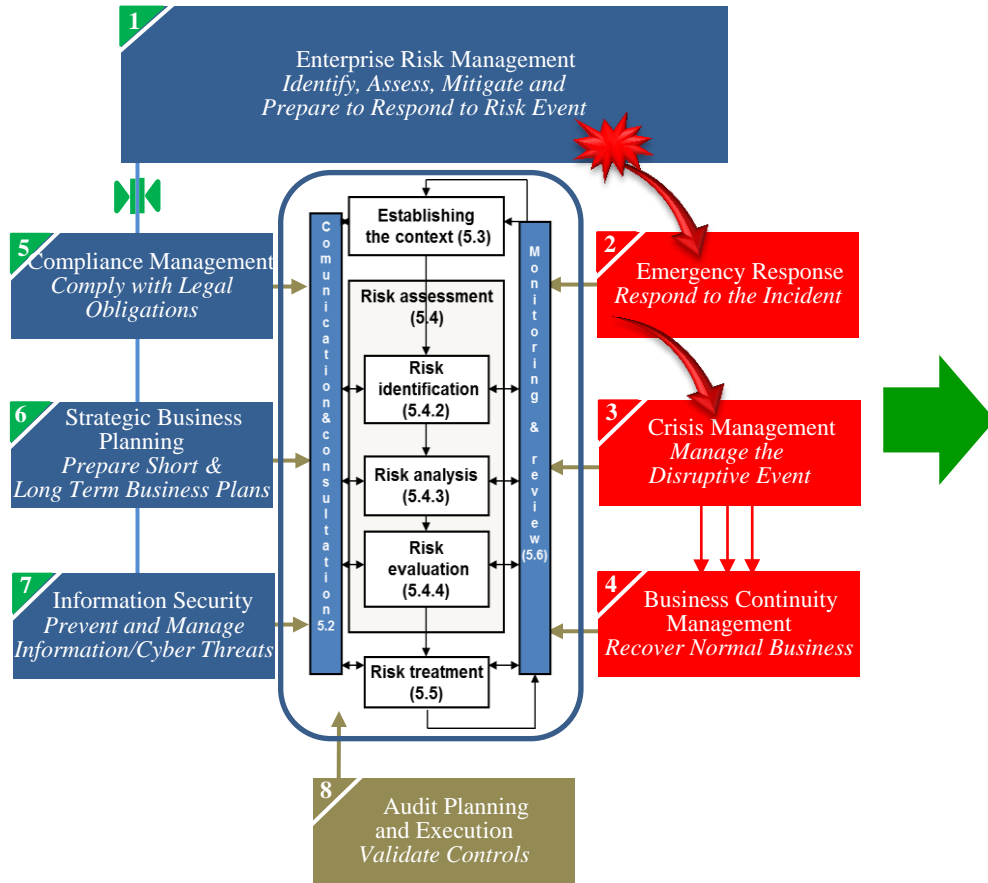


Regular review and agreement by Key Stakeholders: Risk Appetite; Mitigation Strategies and Measures; Performance Measures

5. Business Resilience Model



Unified Risk Assessment Standard



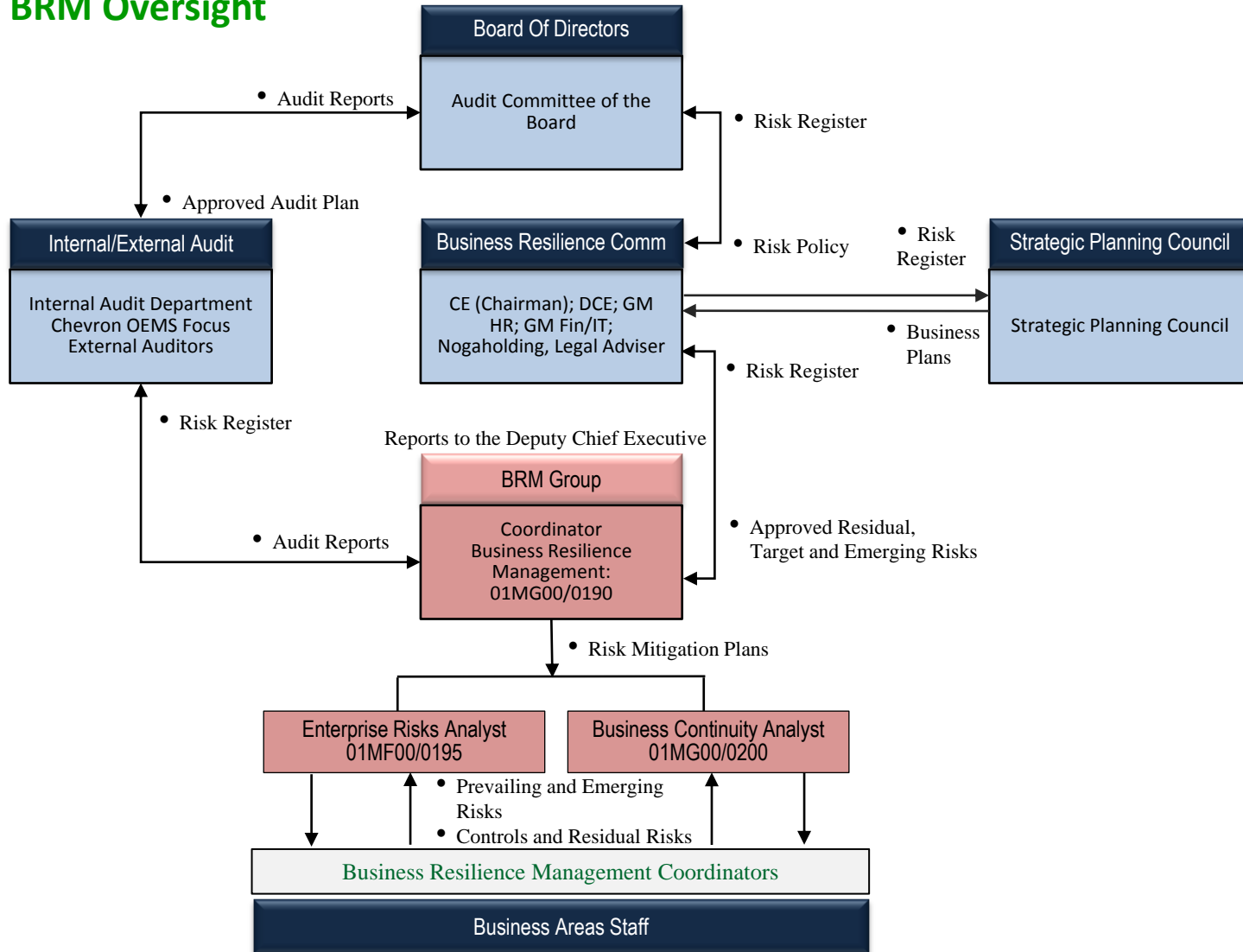
Risk Assessment Matrix Definitions		16-19					12-15					6-9					
RISK LEVEL		Very High					High					Medium					
The likelihood of consequences occurring in the industry probability >80%		5					4					3					
Multiple occurrences have happened frequently in the industry probability >80%	5	16	12	8	4	16	12	8	4	16	12	8	4	16	12	8	4
Occurs more than once or twice per year, is continuous or certain to occur, probability 50%-80%	4	8	6	4	2	8	6	4	2	8	6	4	2	8	6	4	2
Likely to occur once every two years or more, probability 10%-50%	3	4	3	2	1	4	3	2	1	4	3	2	1	4	3	2	1
Likely to occur once or more in life of facility/organization, probability 1%-10%	2	2	1.5	1	0.5	2	1.5	1	0.5	2	1.5	1	0.5	2	1.5	1	0.5
Unlikely to occur but known in industry, probability <1%	1	1	0.5	0.2	0.1	1	0.5	0.2	0.1	1	0.5	0.2	0.1	1	0.5	0.2	0.1

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5. Business Resilience Model



BRM Oversight



6. Technical Response

Principles

1. A single source database with consistent, upto date and reliable data
2. Reporting contents and look-and-feel should be same at all levels: Risk Owners, BRM Committee, and BoD
3. A secure database, with at-source updates and audit trail
4. Consistent and common data terminology as per company standards
5. One system for all risk mitigation actions: origination, tracking, reporting and closure
6. Data and system should be secure
7. No data duplication within or across systems

Steps

“Implement an integrated Business Resilience Management System based on a proven GRC solution”

1. Common Database with BRM Registers: Business Risks; Compliance; CM and BCP; Information Security; Projects and Audit
2. A wizard to assist with Risk Assessment data capture based on the standardized Risk Matrix
3. Workflow to manage corrective and preventive actions from inception to closure
4. Integration with Corporate Systems (like HR)
5. Common look-and-feel reporting system including KPIs
6. Selected MetricStream solution

6. Technical Model

MetricStream Solution

1. Functionality

1. Enterprise Risk Management - Anticipate, assess and mitigate key risks to business
2. Compliance Assurance - Comply with government, industry and company regulations and standards.
3. Information Assurance - Ensure security and privacy of Infrastructure and data - Business or Operational
4. Business Continuity Planning - Prepare and rehearse plans to respond to major threats
5. Strategic Planning - Strategic Plans and Major project Risk
6. Crisis & Emergency Response Management - Being prepared for credible disruptions
7. Audit Program: Documentation and validation of Controls

2. Process

1. Risk Assessment Procedure: Bapco Risk Matrix with drop-down menus
2. Approval by Stakeholders
3. Email based reporting and escalation

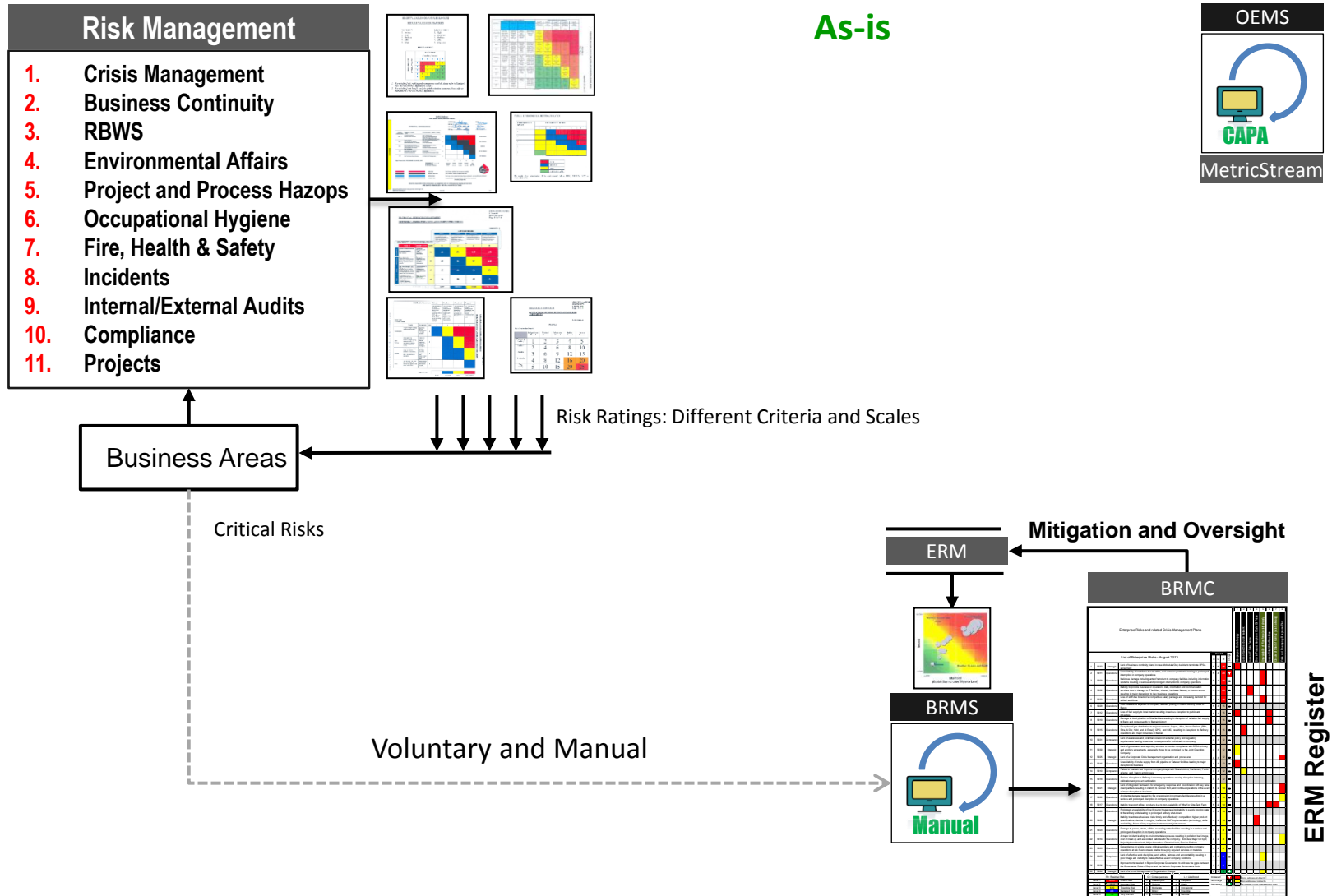
3. BRM Registers

1. ERM
2. Crisis Management Plans
3. Business Continuity Plans
4. Audit Program
5. Compliance

4. Reporting

1. Risk Dashboard including KPIs
2. Stakeholders, BoD, BRMC Reports (Bapco templates)

7. MetricStream as an Enabler



7. MetricStream as an Enabler

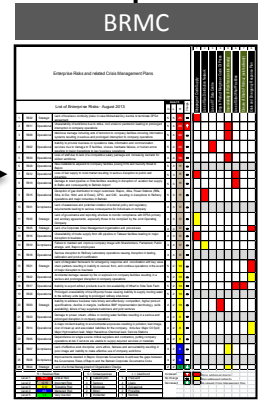
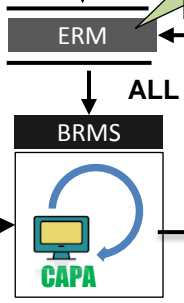
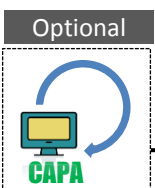
Phase 1 to 3 capabilities will be built into MetricStream from day one

- ### Risk Assessments
1. ERM
 2. Crisis Management
 3. Business Continuity
 4. RBWS
 5. Environmental Affairs
 6. Project and Process Hazops
 7. Occupational Hygiene
 8. Fire, Health & Safety
 9. Incidents
 10. Internal/External Audits
 11. Compliance
 12. Projects

LEVELHOOD		4-6	7-9	10-12	13-15	16-18	19-21
Low	1	5	10	15	20	25	30
Medium	2	4	8	12	16	20	25
High	3	3	6	9	12	15	18
Critical	4	2	4	6	8	10	12
Extreme	5	1	2	3	4	5	6

Phase 2
 ALL Risk Assessment will be entered into MetricStream

Phase 1
 Risk Register and CAPA will be established for Risk Mitigations



BRM Register

Phase 4
 ALL BRM Registers will be deployed

Phase 3
 ALL Critical Risks (Residual Risk >15) will be automatically escalated to BRMC

7. MetricStream as an Enabler

Workflow



- Business
- Compliance >15
- Crisis Management >15
- BCP/Projects >15
- Information >15
- Audit >15

Identify Risk, Define Risk Owner & Approver, Link it to Business Unit

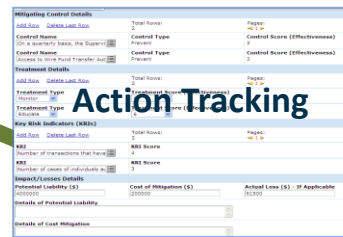


Review / Approve Risk, Capture additional Info if needed



Reports & Dashboards

Executive reports, Dashboards, Heat Maps



Conduct Risk Assessment, Define Actions, Action Owners, Due Date

Implement Action, Update Status on Actions



Risk Evaluation

8. Key Learnings



1. Think beyond traditional ERM
2. Business model precedes technical model Single framework but phased deployment
3. A consistent and standardized view of risks across the organization
4. Automated escalation and tracking of critical risks and associated mitigations
5. Common terminology and data
6. Proven IT solution

A panoramic view of Dubai, UAE, at dusk. The city is illuminated with lights from buildings and roads. The Burj Khalifa is visible on the left, and a large, modern skyscraper is on the right. The water of the Dubai Marina is in the foreground.

Thank You

Business Resilience Management
MetricStream Implementation Framework

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