Why are there still risks in datacenters designed with redundancy as per TIA-942 Standard and/or UTI Guidelines?

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The Data Center Trinity

The 3 P's of a High Performance Datacenter

Bastiaan Janssen
Managing Director, EPI Europe

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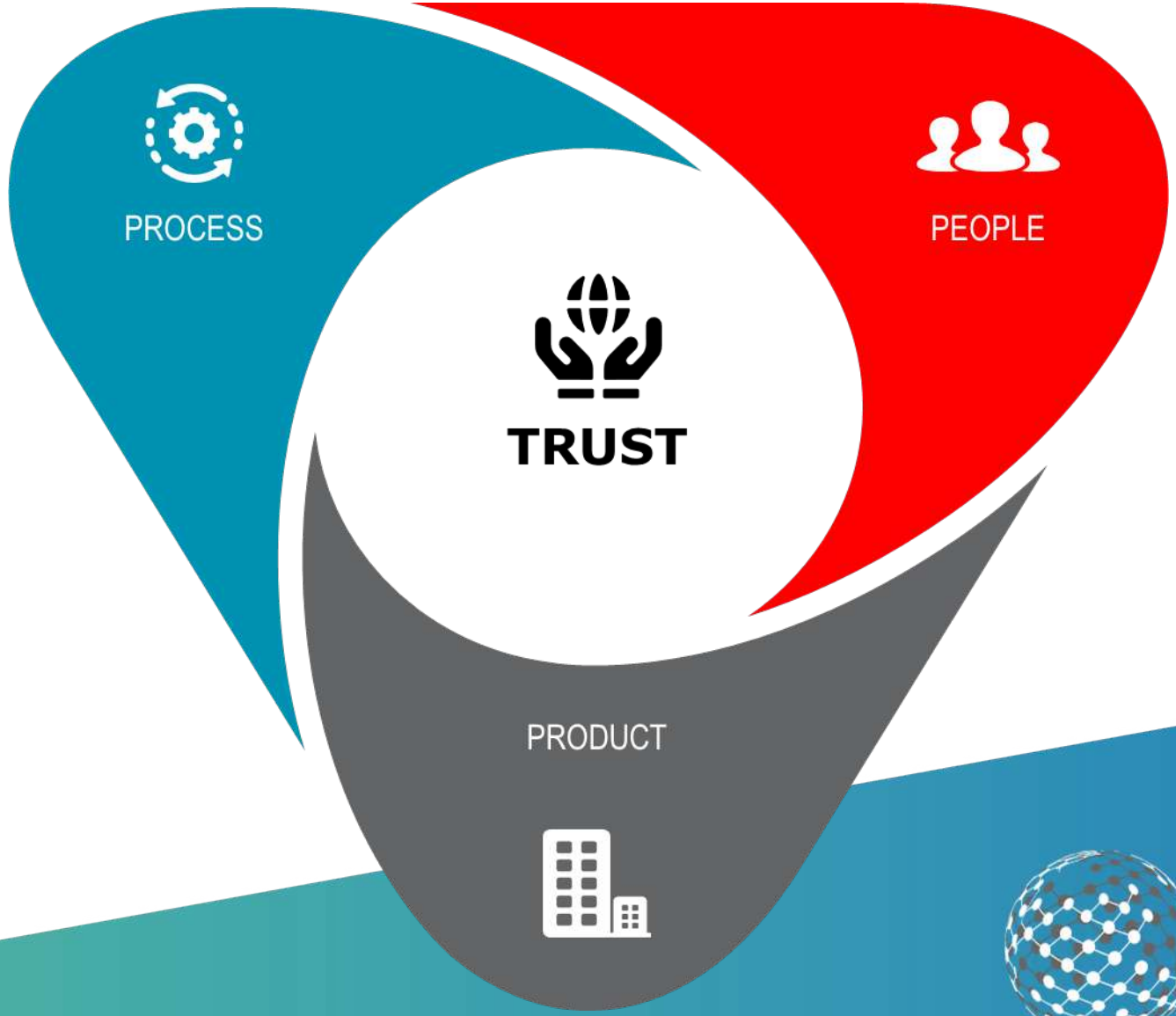

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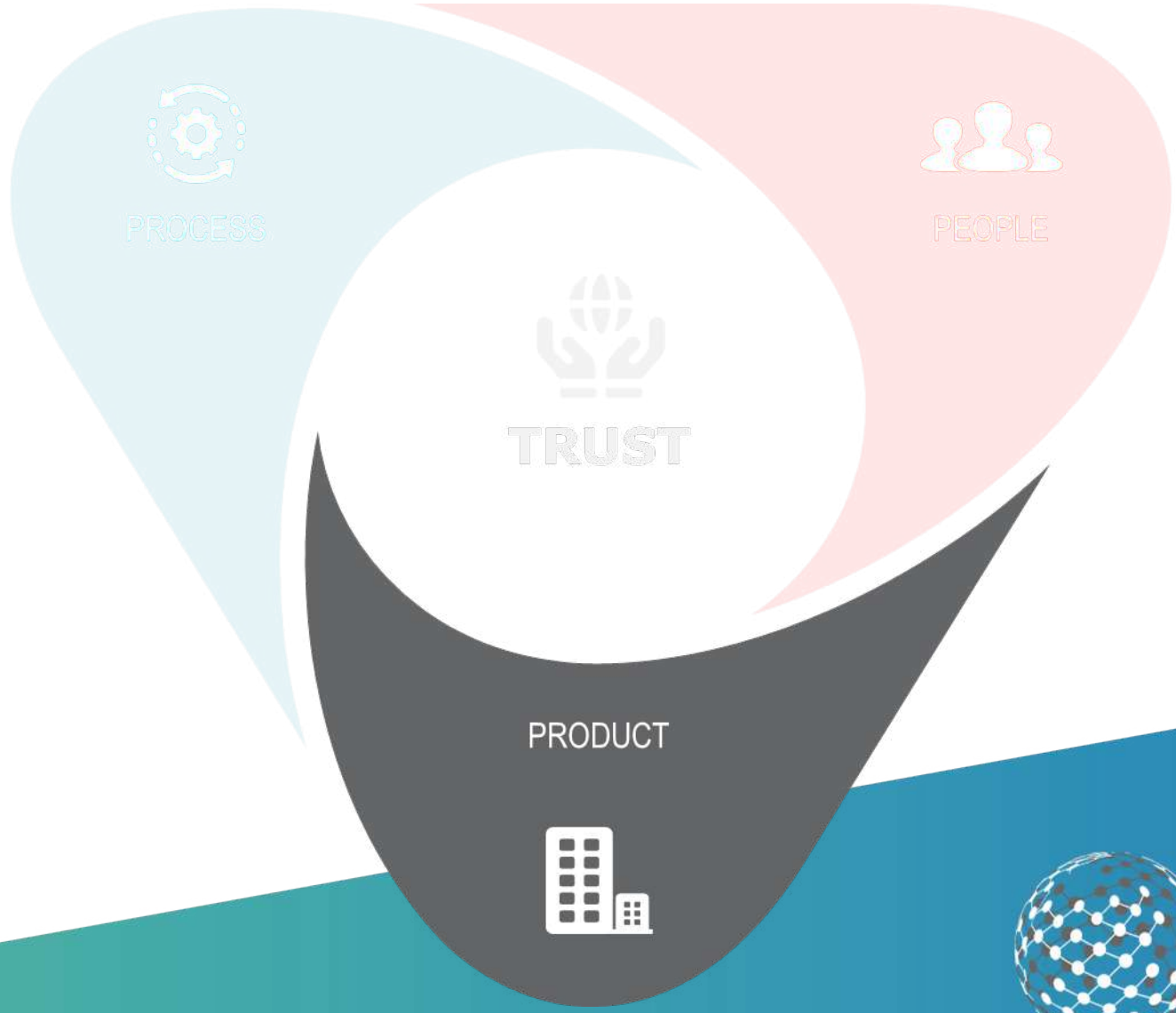

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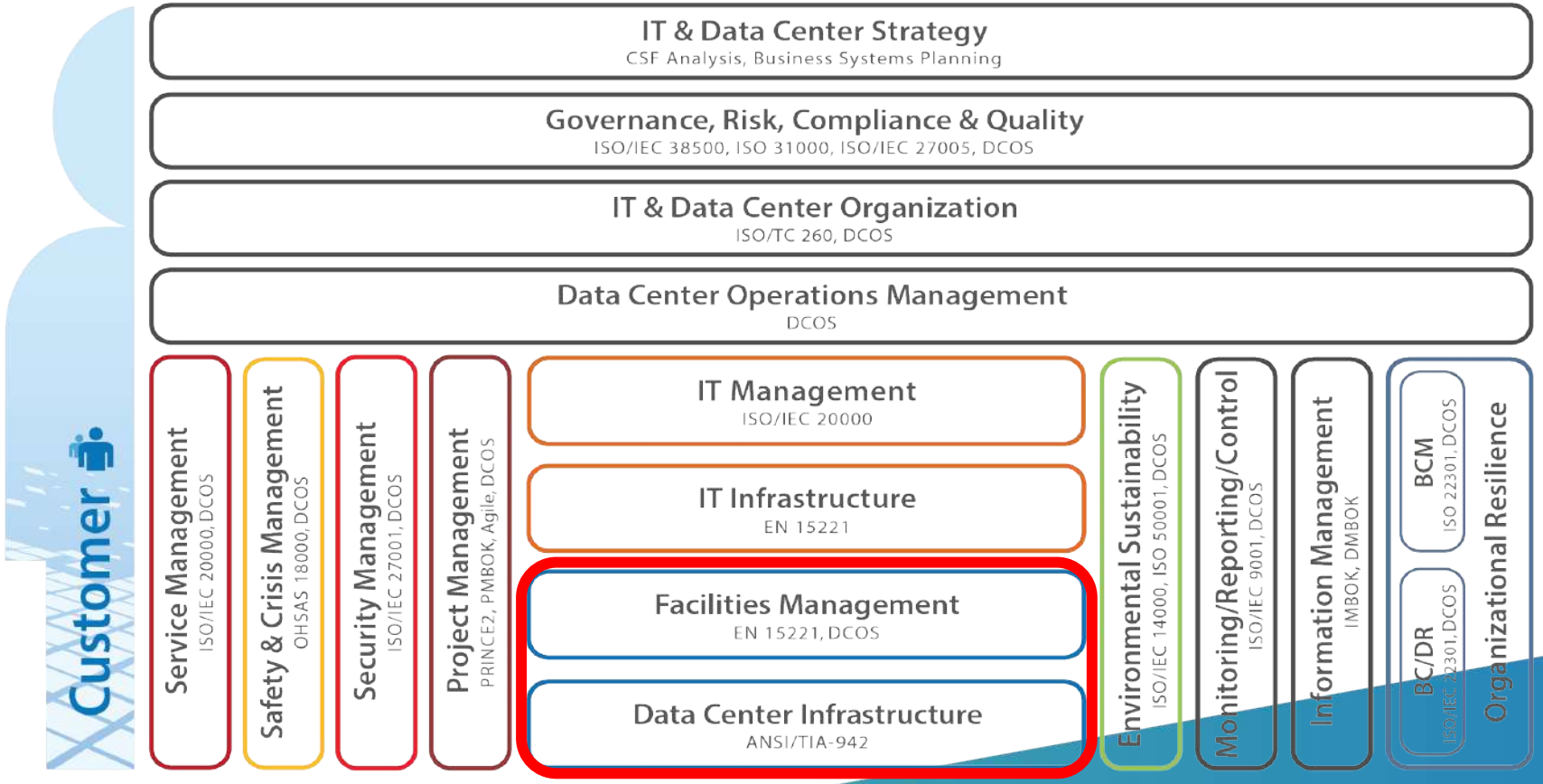
EPI - IT & Data Center Framework©



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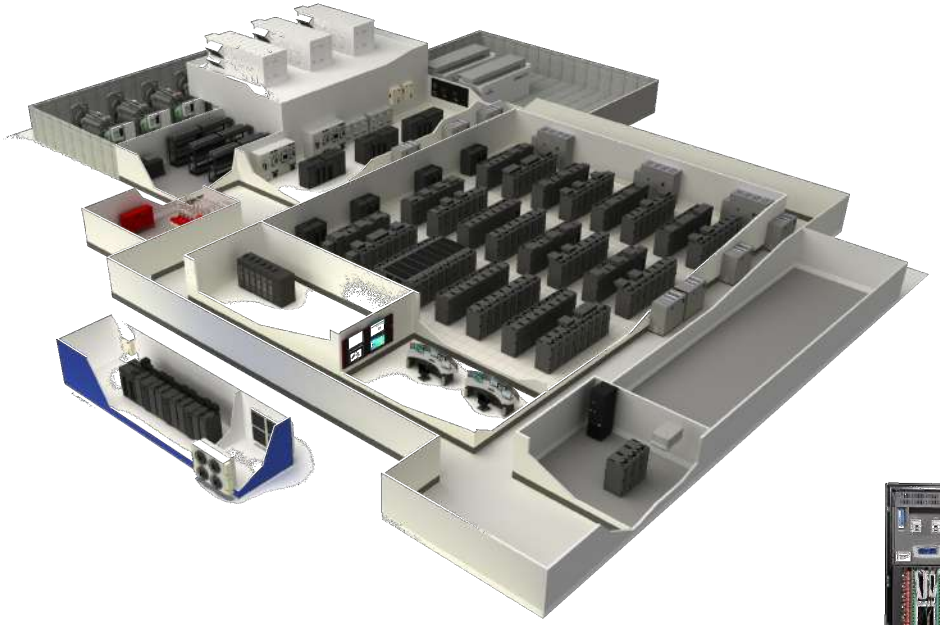
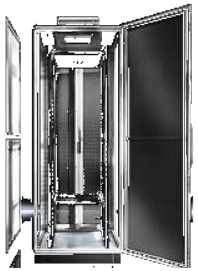
The complexity of datacenters





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Standards drive quality

EN-50600

LEED

ISO-TS-22237

TIA-568

ISO-6100-4-2

BREEAM

BS-5306

ASHRAE

ANSI/TIA-942

ISO-31000

ISO-60364

ISO-11801

NFPA-2001

UPTIME

NEN-50131

BICSI-002

ISO-27001

NFPA-75

IEEE-1100

IEC-364-4-7

EN50173

TIA-606

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Rated / Class / Tier levels

Rated 1	Rated 2	Rated 3	Rated 4
Base Line Availability	Improved Availability	Concurrent Maintainable	Fault Tolerant
N Capacity without redundancy	Due to addition of redundant components to critical parts of the facility	Data center can undergo any form of planned maintenance without the need to shutdown which supports 24x7 operations	allows concurrent maintainability and one (1) fault anywhere in the installation without causing downtime

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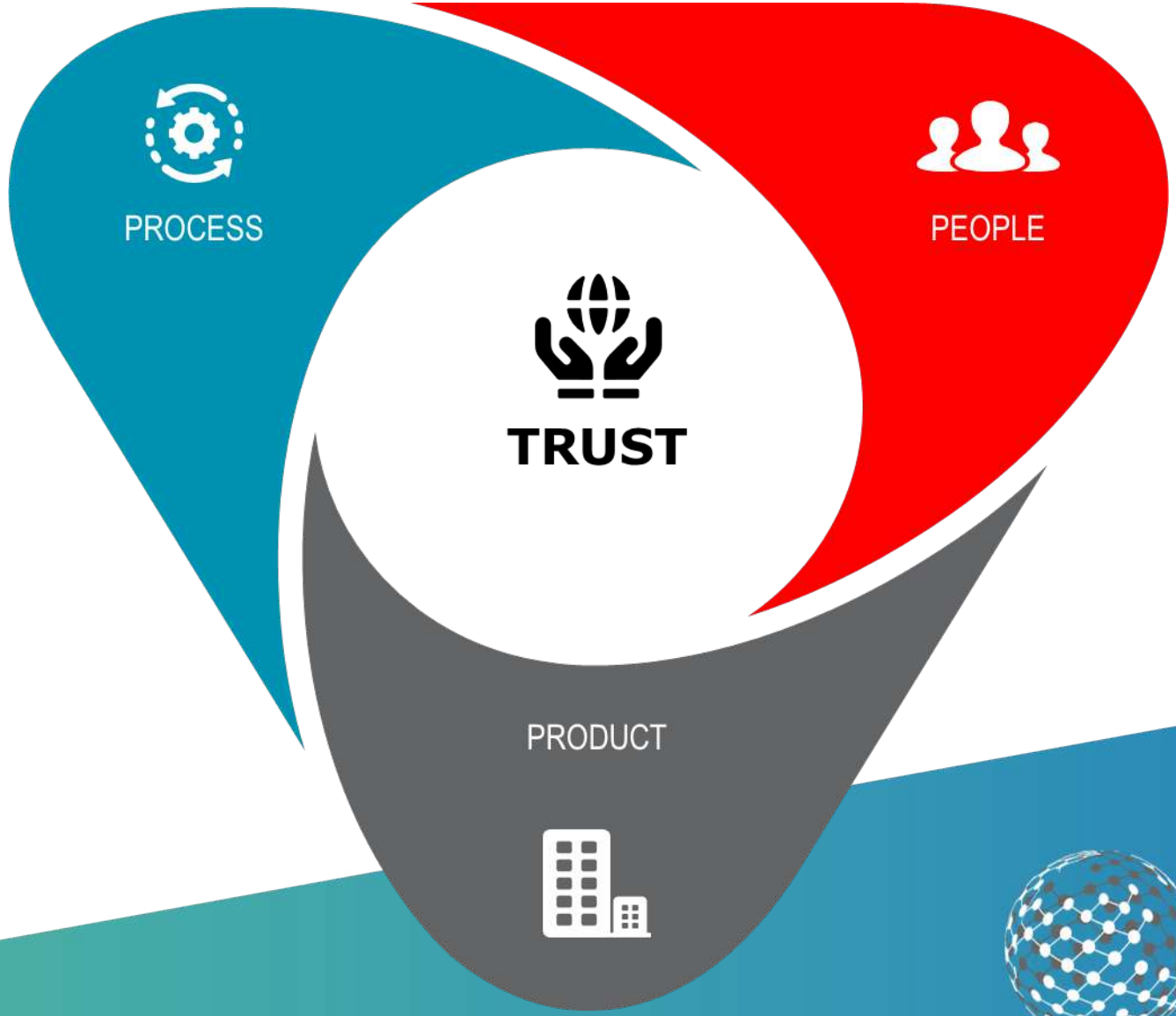

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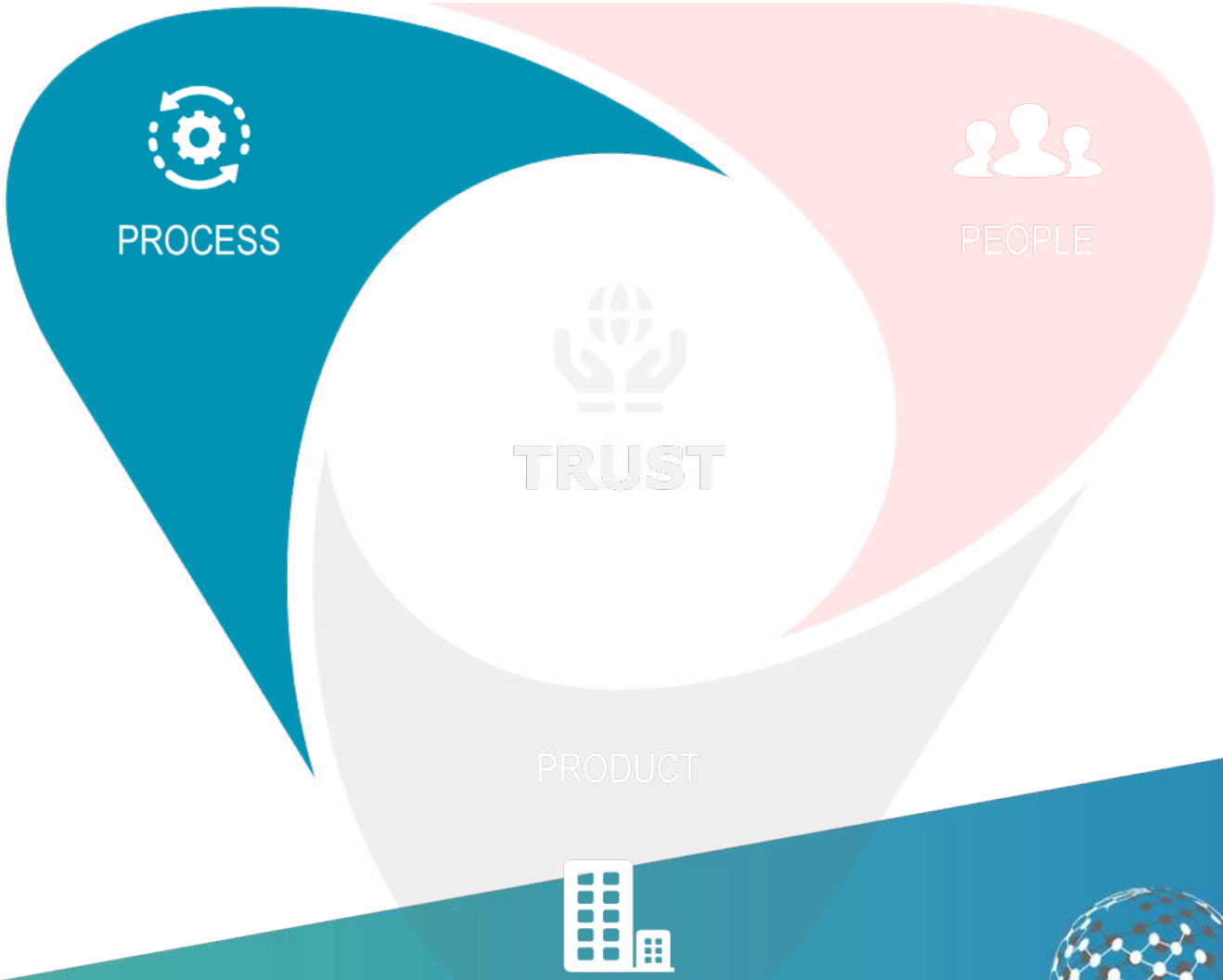

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Human Error / Human Factor

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Causes of human related downtime

1. Processes at an incorrect maturity level in relation to the business objectives
2. Insufficient integration between processes
3. Human errors
4. Human violations

Human Error: the good news!

- Human Error is predictable!!

- Because human error is predictable, we can develop processes/ procedures/training for;
  - Prevention
  - Consequence minimization

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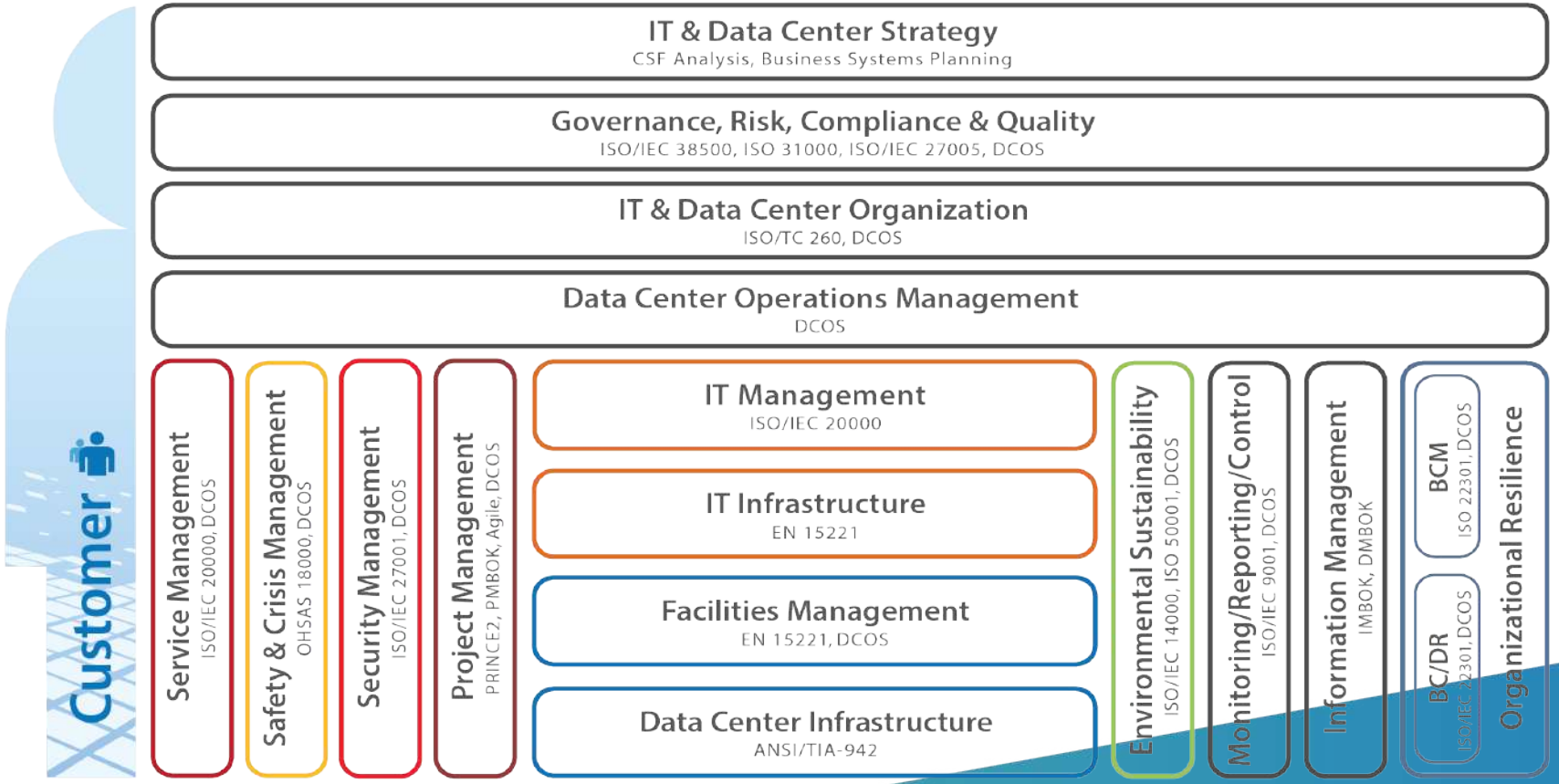

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11 Disciplines covered by EPI-DCOS®

1. Service Level Management
2. Organization
3. Safety Management
4. Security Management
5. Project Management
6. Facilities Management

7. Data Centre Operations
8. Environmental Sustainability
9. Monitoring/Reporting/Control
10. Organizational Resilience
11. Governance, Risk and Compliance

DCOS®

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DCOS® Sub Disciplines

Example: Service Level Management (SLM)

- Needs analysis
- Technical requirements
- Support requirements
- Commercial and legal requirements
- Service catalogue
- Service Improvement Plan (SIP)
- Service Level Management (SLM)

- Incident management integration
- Escalation policy and procedures
- Vendor management
- Reporting
- Complaint procedure
- Customer satisfaction management

DCOS®

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DC-Operations maturity levels

DCOS-1 Initial

No/Little;
- Documentation
- Monitoring
- Training
- Process

DCOS-2 Repeatable

- Undocumented processes, high reliance on personnel

DCOS-3 Define

- Standardized and documented procedures

DCOS-4 Managed

- Processes are measured and controlled
- Continuous improvement programs

DCOS-5 Optimized

- Integrated processes
- Continuous improvement programs

DCOS®

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How to get the most out of DCOS®

1. Read the DCOS® to understand the big picture
2. Determine which disciplines/domains to improve
3. Perform a gap analysis / audit
4. Prepare a realistic action plan
5. Celebrate success
6. Expand scope / improve maturity / maintain

DCOS®

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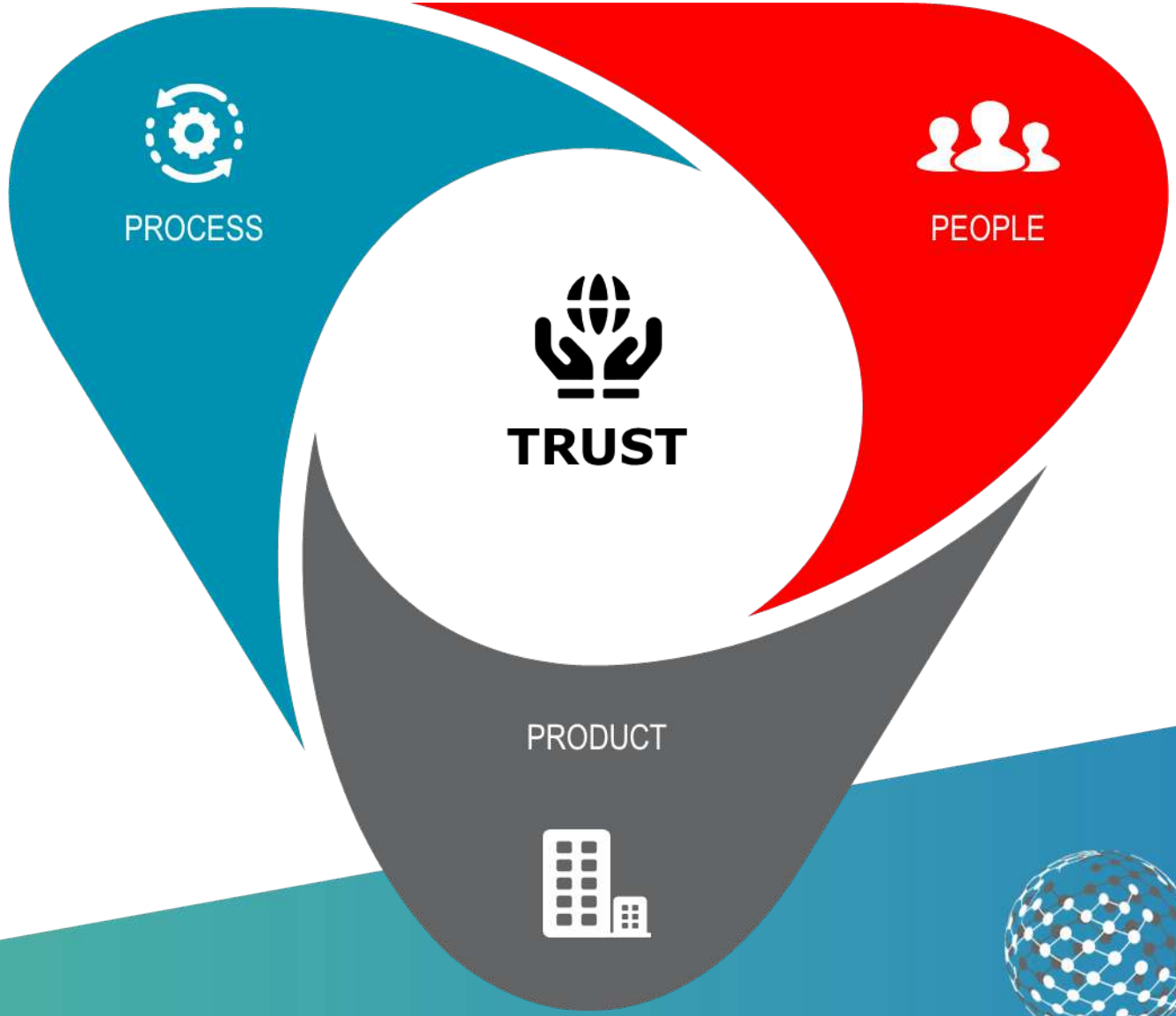

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Data Centre Growth and Co-location Market Size by Region in 2024

North America
CAGR:6.4%
US$23.4B

EMEA
CAGR:11.1%
US$17.2B

APAC
CAGR:12.2%
US$28.0B

Southeast Asia
CAGR:12.9%
US$3.5B

Source: Structure Research,
Cushman & Wakefield

Datacenter growth

Not enough (experienced) datacenter staff available

Lack of skills on datacenter facilities

Exponentional data growth

More Focus on Environmental Sustainability

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The world is changing…

Adoption of Cloud computing continues with hybrid being a key strategy

AI – Often an abused word. True AI will add value with cooling being the first target

Mobility and 5G create both challenges and opportunities

New competences are required. Skill gaps are widening

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Training challenges

Which outcome of skills, knowledge and competences?

How can I create a structured training plan?

Which training provides the right outcomes?

How do I convince management?

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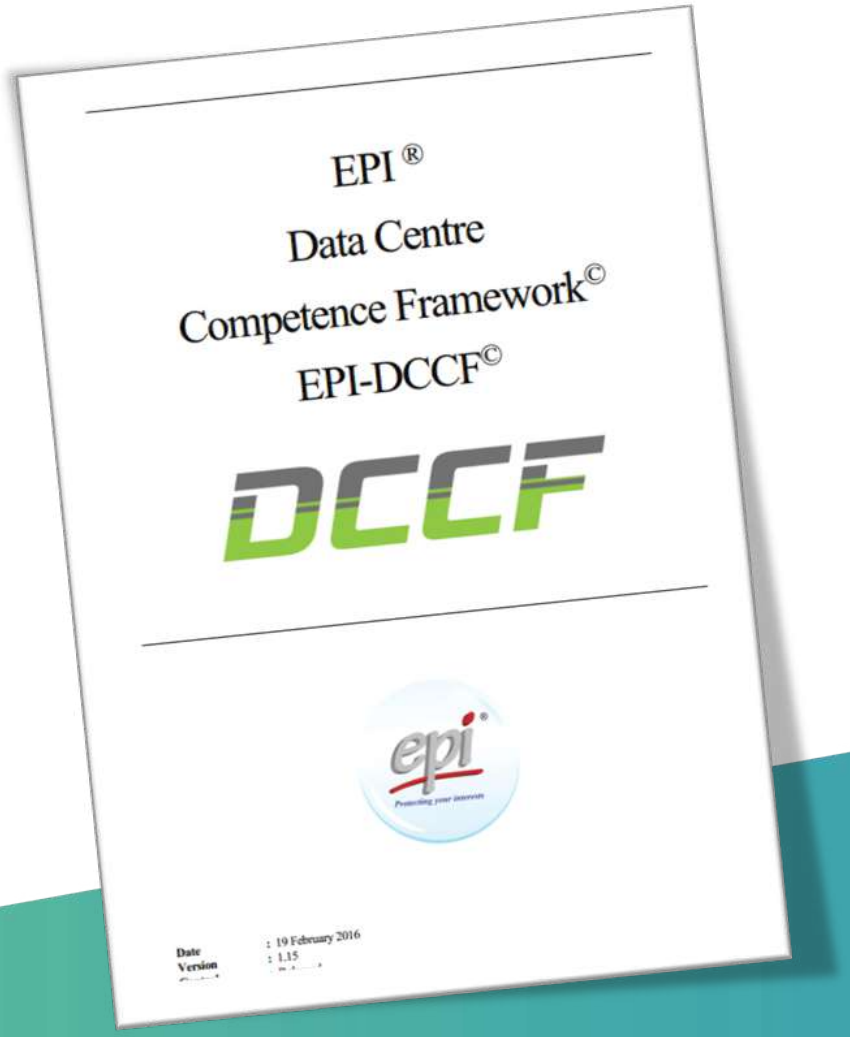
DCCF®

Data Centre Competency Framework



- The first and only competence framework for datacenters
- Based on the “e-Competence Framework (e-CF)”
- As well very useful for management / HR
- Describes competences and job roles (38)
- Download for free on - www.epi-ap.com/dccf

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Course selection criteria

- ❑ Is the course provider a data centre expert?
- ❑ Trainers with hands-on experience?
- ❑ International Standards Based?
- ❑ Vendor Neutral?
- ❑ Independent/Impartial Exams?
- ❑ Globally recognized?

Most of all…..

- **Does it teach you the competences required?**

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How to get ready for the future?

1. Review your current and potential future job role
2. Analyse current and future competence requirements (GAP analysis)
3. Define timelines
4. Find the right accredited courses

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Most importantly

Make an appointment with

YOURSELF

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Closing remarks

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Change, change, change

1

The world markets are changing and so is the IT and Data Centre market and at an ever increasing pace…

Business as usual doesn't exist!

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Remember the 3 P’s

2

A resilient data centre infrastructure is important but it is NOT the only factor for high-availability

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Processes

3

Ensure that all processes

1. Meet the maturity level required
2. Are under full management control
3. Are well/fully integrated

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People

4

The future starts **now**, the world is **not** going to wait for you….

1. Planning is everything
2. Competence requirements are changing at an ever increasing pace
3. Invest in yourself and staff

Make an appointment with yourself!

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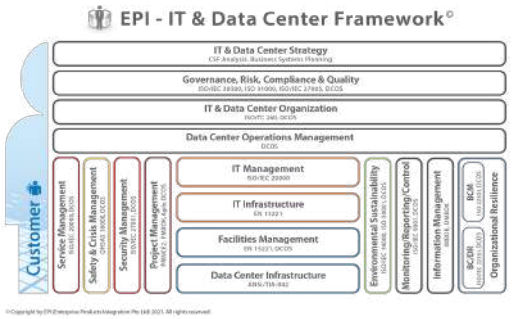
Use the FREE EPI tools

5

1. EPI Datacenter Framework
2. DCOS® – Datacenter Operational Standard
3. DCCF® – Datacenter Competence Framework



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Hottest selling course

(2-day course)

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What is CDCP?

- 2-Day course exposing candidates to all the fundamental knowledge related to design, build and optimize data centres
- Course address Standards and all the technical matters
- Explains design requirements as well as various technologies
- A lot of practical experience from veterans in the data centre industry
- Exam; 1 hour, 40 questions, closed book, 27 correct to pass
- Prerequisite: None

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EPI Data Centre Training Framework©

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Course Delivery – 3 options

ILT

Instructor Led Training

VILT

Virtual Instructor Led Training

TOD

Training On Demand

epi ACADEMY

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THANK YOU!

Bastiaan Janssen

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bastiaan@epi-ap.com

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Questions?