

COMPANY PORTFOLIO



*Bridging Aerospace and Defense
Compliance Gaps . . . Optimized*



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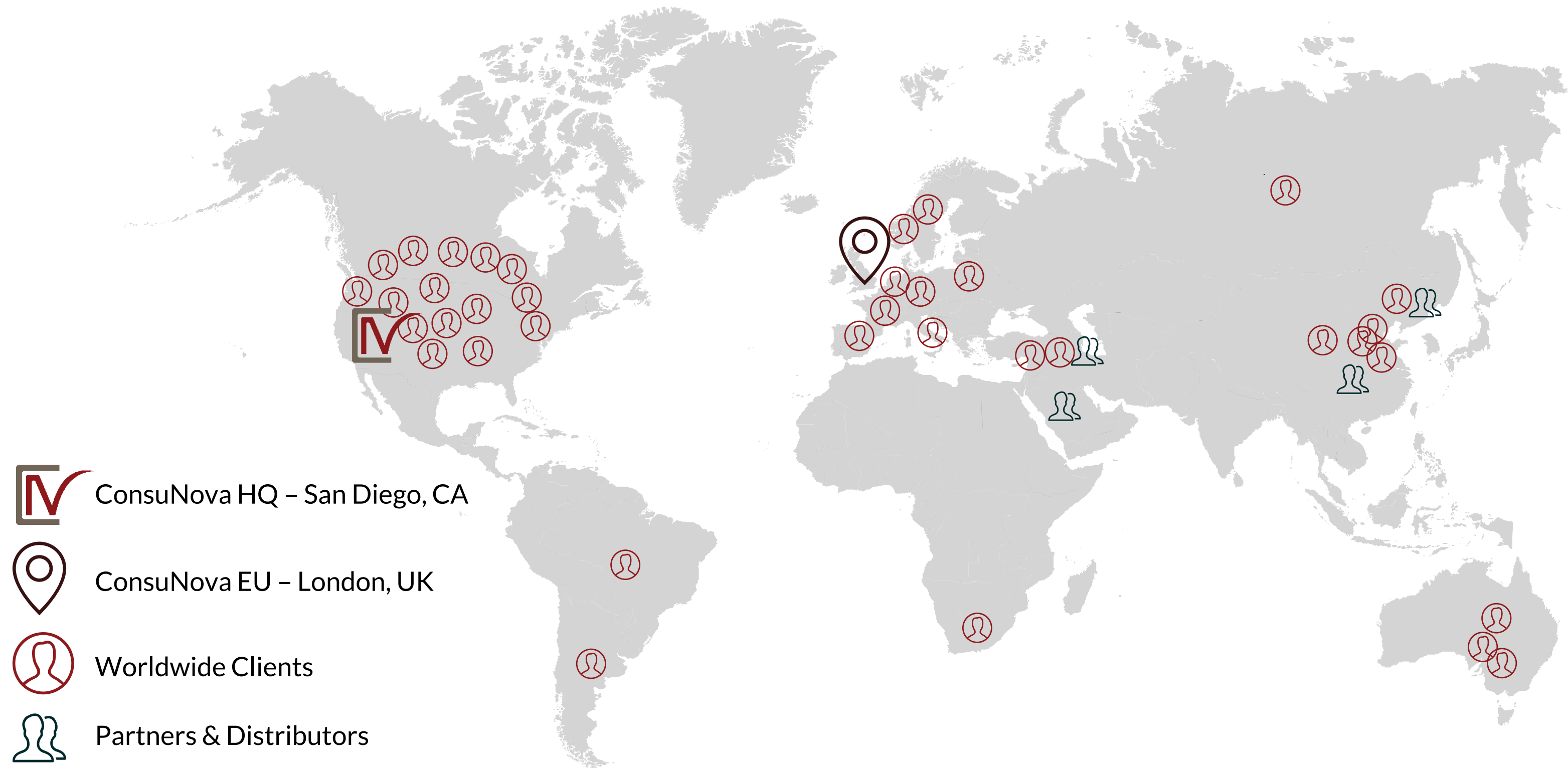
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How We Got Here



MAP OF CLIENTS AND DISTRIBUTORS



CLIENTS & PARTNERSHIPS

Major Clients


MEGGITT

 **United Technologies**

BAE SYSTEMS

Raytheon

NORTHROP GRUMMAN

 **DANAM systems Inc.**

 **GENERAL ATOMICS AERONAUTICAL**

COBHAM

 **mercury systems™**

CURTISS-WRIGHT

MBE
powercontrol technologies

 **Hanwha Systems**

 **Trimble.**

 **LEONARDO**

HANCOM
HANCOM UNIMAX

ETRI Electronics and Telecommunications Research Institute


Ministry of Defence

GENERAL DYNAMICS

 **Collins Aerospace**

Strategic Partners

 **RAPITA** Systems Ltd.

ITECPUB'N

 **visure**

 **the REUSE company**

KONAKA
S A V U N M A

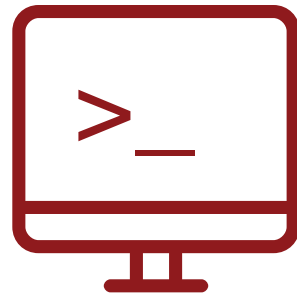
 **Cinawind**

AdaPilot

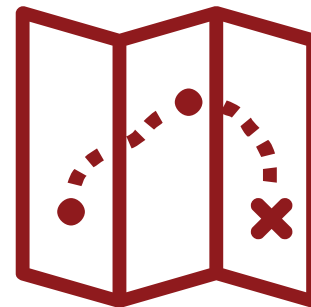
 **KONATUS**

HANCOM
HANCOM MDS

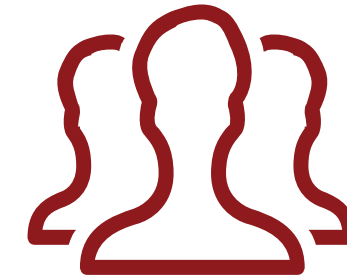
THE ConsuNova ADVANTAGE



**ENGINEERING
AUGMENTATION AND
ENHANCEMENTS**



**COMPLIANCE
ROADMAPS & GAP
ANALYSIS**



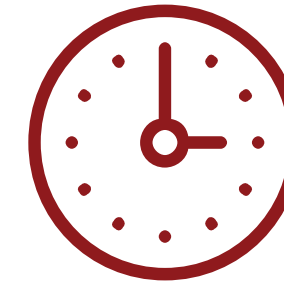
**HANDS-ON,
TRAINING &
WORKSHOPS**



**AVIONICS/UAV/UAS
COMPLIANCE &
CERTIFICATION**



**ENABLEMENT TOOLS
AND ASSETS FOR ALL
DISCIPLINES**



**EFFICIENT
DECISIONS FOR
EVERY CLIENT**

The ConsuNova LANDSCAPE

Our core solutions & services



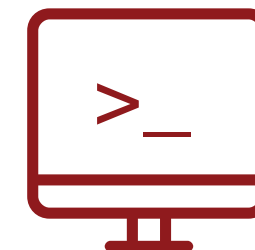
CORE COMPETENCIES

- Showing compliance via FAA or Euro CVEs
- Reliability & Safety
- Design & Development
- Verification & Validation



STANDARDS-BASED TRAINING

- ARP 4754A
- ARP 4761
- DO-178C
- DO-254
- DO-297
- DO-200B
- DO-278A



ENGINEERING & PROCESS IMPROVEMENT

- Engineering Workshops
- Gap Analysis
- Process Streamlining



ConsuNova GEAR PRODUCTS

 complyGEAR

 adviceGEAR

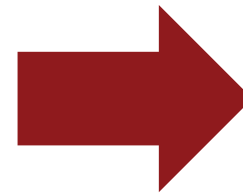
 traceGEAR

 reviewGEAR

TEAM EXPERIENCE

THE TEAM

- Experienced Engineers:
 - Experts with 20+ years of experience in avionics
- Experienced DERs:
 - 7+ Active DERs
 - Approval up to DAL-A
 - Systems
 - Safety
 - Software
 - Hardware
 - Electrical
 - HIRF



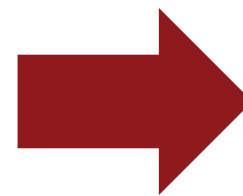
INDUSTRY WORKING GROUPS

- SAE SC 205
 - DO-178C
 - DO-331 (MBD)
 - DO-333 (Formal Methods)
- EuroCAE WG 63
 - Complex Aircraft Systems
 - ARP-4754B
 - ARP-4761A
- EuroCAE WG-105
 - UAS
- EuroCAE WG-114
 - Artificial Intelligence

INDEPENDENT EXPERTS FOR AUDITS AND SHOWING COMPLIANCE

TYPES: SW, HW, SAFETY, ETC.

- Seasoned FAA DERs (Designated Engineering Representatives)
 - Certified annually by FAA
- Experienced European CVEs (Certification Verification Engineers)
 - Track records with EASA and EU Avionics Integrators
- Ample MIL-Aero Compliance Experience
- Fully independent



SHOWING COMPLIANCE

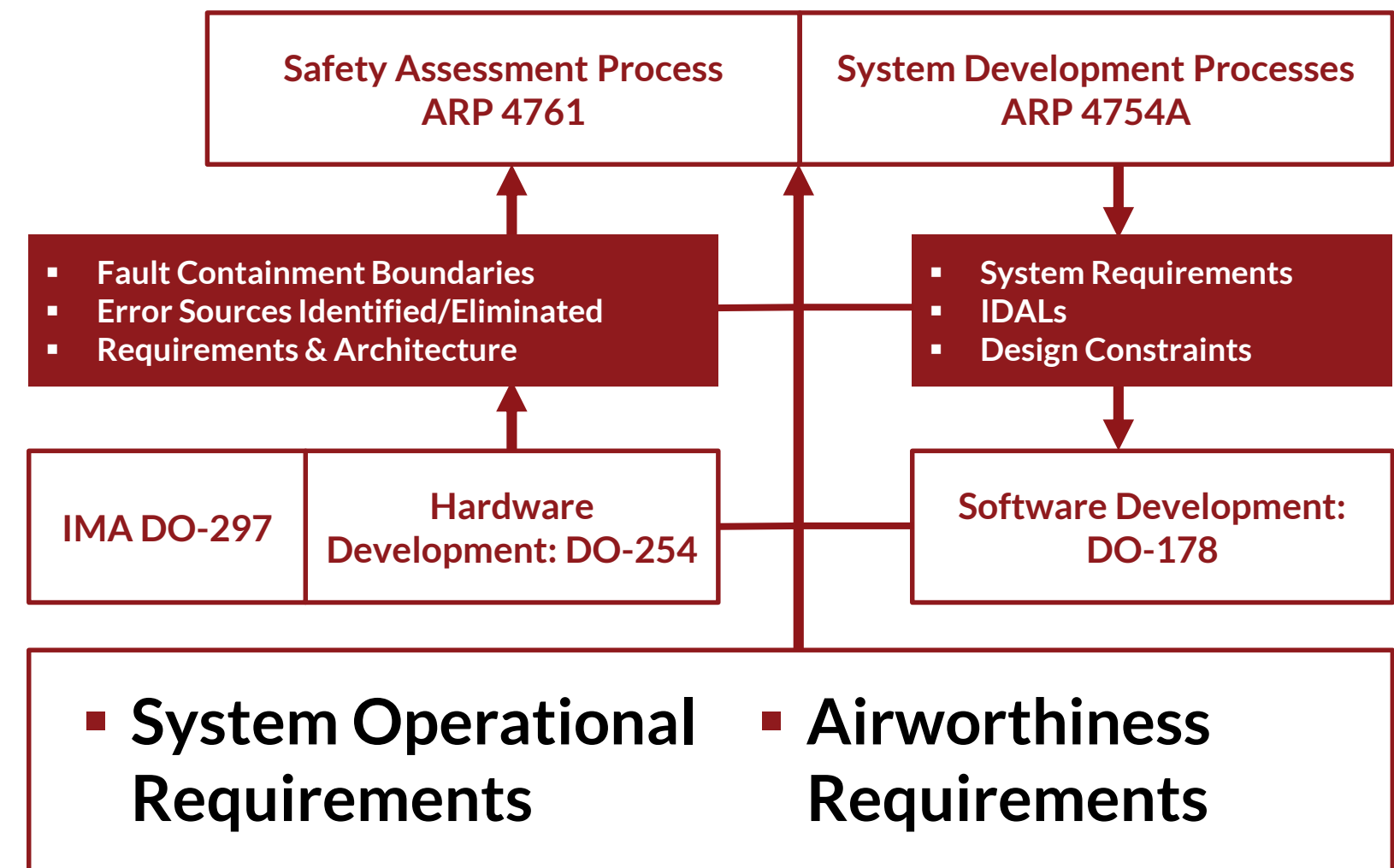
- Perform Audits
- Find & Report Compliance to “CERT Auth.”
- Dry-Runs & Workshops
- Technical Review
- Contributor to CERT Plans
- Mitigate risk

RECOGNIZED CERTIFIED TRAINING

Worldwide training and certification services

- Customized per Demands
- Practical Examples
- Rated 90%+ by top-class engineers
- Applied knowledge upon completion

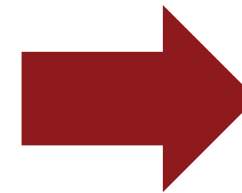
[Read Public Press Release >>>](#)



SAMPLE PROJECTS

MAJOR SYSTEMS / AIRCRAFT LEVEL

- **Commercial Aircraft**
 - Boeing 787
 - Parts of Airbus A320, A330, A340, A380, A350
 - COMAC C919 Data Link
 - XAC MA700 Cabin System
- **Military Aircraft**
 - Airbus A400M Engine Control
 - Boeing KC-767 Global Tanker Transport Aircraft,
 - Parts of F-22 Raptor, F-35 Joint Strike Fighter (JSF),
 - C-17 & C-130J/AMP



SYSTEMS / SUB SYSTEM LEVEL

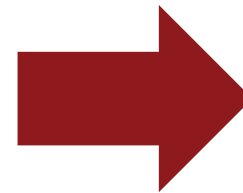
- Missile Defense System
- Battery & Power Systems
- Landing Gear & Breaking Controls
- HUDs, Displays, EFIS
- Engine Controls
- Data Recorders
- FMS
- Data Link
- Radio Navigation
- Inertial Navigation
- Network Management
- Cabin Controls and Management
- RTOS

ConsuNova UAV/UAS EXPERIENCE

PROTECTOR RG Mk1

- Exclusively selected as Trusted Certification Representative on behalf of UK MoD on General Atomic Protector
 - 6+ Active DERs for
 - Safety
 - Systems, SW & HW
 - All SW CSCIs Audits
 - All HW LRUs Audits

[Read Public Press Release >>>](#)



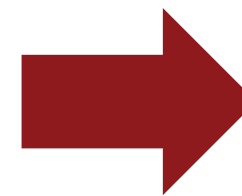
OTHER MIL UAV/eVTOL

- US ARMY Shadow Certification
- Electric/Solar Aircraft
 - USA
 - Switzerland
 - New Zealand
- Selected as the provider of DER services and Training on DO-178C, DO-254, ARP 4754A, ARP 4761 and Multicore for AED (US Army Engineering Directorate)

EXPERIENCE IN FLIGHT CONTROL COMPUTER

SYSTEMS, HW, SW

- Boeing B787 Flight Controls:
 - System Design
 - System Safety
 - Hardware Safety, System Test
- McDonnell Douglas MD-11 Flight Controls:
 - System Design, System Safety, Hardware Safety
- Boeing B717 (MD-95) Flight Controls:
 - System Design, System Safety, Hardware Safety



PLATFORM

- Bell 525
- Agusta 609
- Xian MA700
- MD-11
- B787 & 717
- Bombardier C-Series, now Airbus A220

ENGINEERING SERVICES

How we help aerospace professionals achieve their goals

System Certification

- Safety & Reliability Analysis (all levels)
- Systems Engineering and Planning
- TSO / ETSO Certification Support
- IMA System Integration Planning

Software & Hardware Development

- Requirements management and Requirements Planning
- Define and roll out of software architecture inline with system specification
- Reverse engineering of existing code to build top-down architecture and design
- Complex Electronic Hardware Design & Development

Program Efficiency

- Technical and Compliance Workshops
- Process Incorporation
- Coaching & Mentoring Strategy solutions for Commercial / Military compliance
- QA & Independent Reviewer

Verification Services

- Develop verification environment to maximize functional coverage
- Automate test environment to reduce V&V cycle
- Strong knowledge of best-in-class verification tools
- Complex Electronic HW V&V augmentation

“

“One of the best courses that I have ever attended.”

-Michael F., SAIC

SAFETY & RELIABILITY PROJECTS

Commercial

- Boeing 777 all aspects
- Bell Helicopter 429
- B747, B727, B767 and B757, MD-11
- B787 Flight Control, Crew Information, Maintenance System
- MD10 FedEx HUD System
- Learjet 85 Power Subsystems

Unmanned (UAV/UAS)

- Predator authorization to fly in Italian airspace.
- Euro Hawk authorization to fly in German airspace.
- Protector (MoD) Aircraft and Sub-system Safety Review.

Military

- Boeing KC-46A
- Lockheed C382J
- 767 Tanker Flight Management
- Head Up Display
- AHRS, Cargo Doors & Landing systems
- Controller Pilot Data Link Communications (CPDLC) System

Safety Analysis

- FHA (Aircraft, System, Sub-System)
- FMECA & FMEA
- FTA
- BIT Analysis
- Reliability Predictions
- Maintainability Analysis
- MIL-882 & ARP 4761

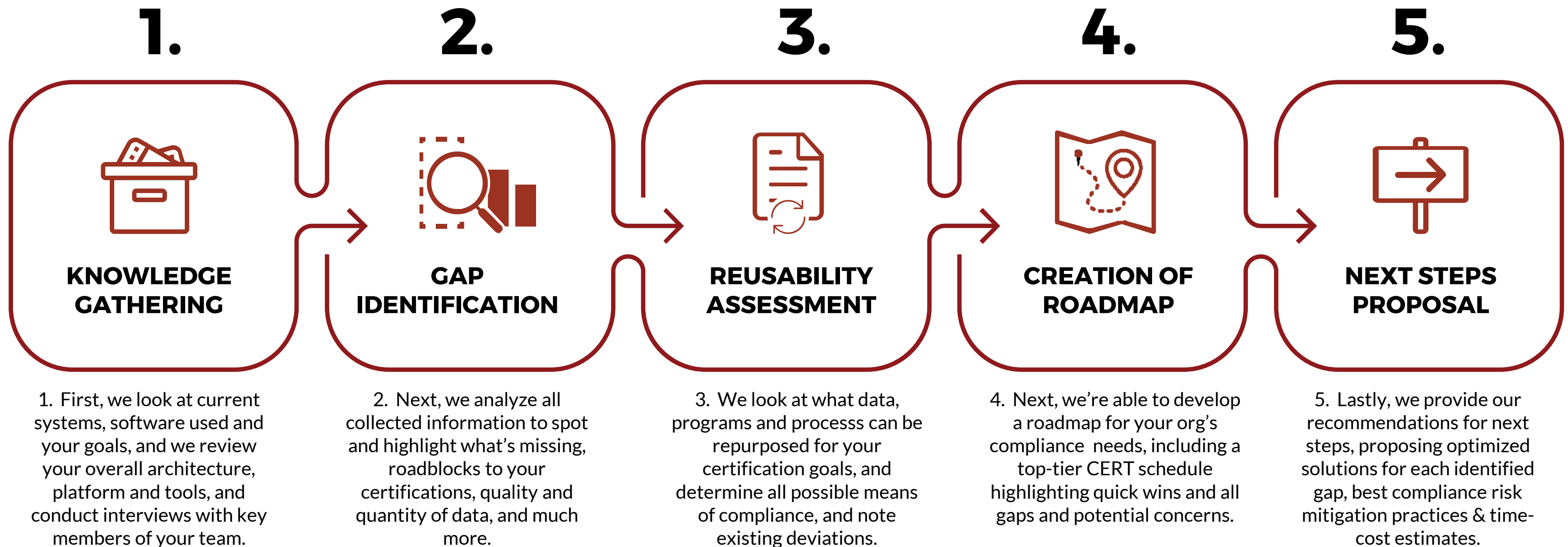
“

“The course was presented in an extremely lively and inspiring way. The depth of the presenter knowledge was impressive.”

-Steve A., Cobham

GAP ANALYSIS SERVICES

Optimized roadmap to compliance



GAP ANALYSIS

Sample 1 – Gaps & Recommendations



GAP ANALYSIS

Sample 2 – Scorecard

Overview of Hardware Scorecard(document-centric)																														
System Data		Planning Data						Standard Templates		Development Process					Supporting Process				Verification Process			Release Process								
System Safety Analysis (Design Assurance Level Determination)	System Level Specifications	PHAC	HDP	HVVP	HCMP	HPAP	HAS	DO-254 Compliance Matrix (SOLs)	Verification Standard	Requirements Standards	Design Standards	Archival Standard	Hardware Req.	Top Level Drawings	Assembly Drawings	HW/SW Interface Data	Design (Conceptual and Detail)	Implementation	Traceability	CM Records	Problem Reports & Change Control	Independent Reviews	PA Reviews & Practices	Test Cases & Procedures (Includes ATP, Env. Tests, HIRF, Etc.)		Test Results	Acceptance Test Criteria	Advance Methods (Elemental Analysis)	Installation Control Drawing	Production Transition
		X	C	C	X	B	X	X	X	X	X	B	C	A	NA	A	C	A	C	B	B	A	B	C	B	C	X	A	A	
		Key Categories																												
A Acceptable Compliance Artifacts/Process Exists (Minor Gaps)																														
B Base & Fundamental Artifacts/Process Exists (Medium Gaps)																														
C Compliant / Controlled Process/Artifacts Require Major Update (Significant Gaps)																														
X Not in Compliance, need to be generated. (Total Gaps)																														
? Unknown OR Unavailable due to lack of Document/Process Availability																														
NA Not Applicable OR Not Started Yet																														

GAP ANALYSIS

Sample 3 – Risk Reduction

Tools and Tool-Qual (Compliance & Gaps)

Compliance	Gaps	Tools & Tool-Qual
<div>a. Tools identification in PSAC/PHAC projects.</div> <div>b. Tool-Qual per DO-178B is understood and assumed performed.</div> <div>c. DO-254 SW Tools do not require qualification as planned.</div> <div>d. No unfamiliar tool selection or usage.</div>	<div>1. PSAC should consider DO-330 Criterial and TQL per tool. (uplifted from ver B of DO-178)</div> <div>2. PDI usage (Configuration & Calib. Data) requires TQL-5 qualification of Maint_DTE_CFN-50AC & DTE_IMUConf.</div> <div>3. HW Tool-Qual data for Vivado incomplete in CM.</div>	<div><div></div><div>80%</div><div></div><div></div><div>20%</div></div>

# Recommendations / Notes		Risks		Man Week
		Sched. & \$	Comp.	
IV	1 DO-330 Justifications in PSAC.	None	Low	-
	2 TQL-5 per DO-330 for Maint_DTE_CFN-50AC & DTE_IMUConf.			
	Tool Operation REQs (TOR) + User Manual + Installation Manual	Low	Low	4
	TOR Verification	Medium	Low	6
	Tool Accomplishment Summary & SCI	Low	Low	2
3	++ DTE_CFN-50AC and Cns_fog_view are Simulator used at ARP-level; hence no Tool-qual required, only configuration and limited V&V.	Reduce	None	
4	++ VectorCast/lint does not need to be Qualified	Reduce	None	

PROVEN PROCESS TEMPLATES AND CHECKLISTS

Process Plans

- DO-178
 - PSAC
 - SDP
 - SVP
 - SCMP
 - SQAP
 -
- DO-254
 - PHAC
 - HDP
 - HVVP
 - HCMP
 - HPAP
 -

Standards

- Requirement
- Design
- Code
- V&V

Compliance Checklists: DO-178/254/200B, ARP 4754A/4761

- | | | |
|------------|---------------|--------|
| ▪ Safety | ▪ Requirement | ▪ V&V |
| ▪ Systems | ▪ Design | ▪ QA |
| ▪ Planning | ▪ Code | ▪ CERT |

- ✓ *Compliant & up-to-date*
- ✓ *Efficient planning*
- ✓ *Expedite route to CERT*
- ✓ *Available On-demand*
www.ComplyGEAR.net

TRACEABILITY & IMPACT ANALYSIS



Out-Of-The-Box Quality

- File Type Independent.
- Based on Simple (definable) Tags.
- Requirements traceability across any type of document & relationship.
- Multi-tagging strategies for multiple vendors & sub-contractors.

Flexibility & Ease of Use

- Editable, Portable & Bi-directional traceability matrix.
- Customizable parsing technology provides efficient traceability for new and existing projects.
- Low Cost & Site Licensed.
- No server setup required

- ✓ *Statistics for all components in the Trace Tree.*
- ✓ *Diagnostics for orphan links, top-to-bottom and bottom-to-top.*
- ✓ *Speed up Trace Analysis, particularly during SOI Reviews.*
- ✓ *Reduce Costs of Rework and Miss-Implementation.*

REVIEW LIFECYCLE MANAGEMENT



Centralized & Managed

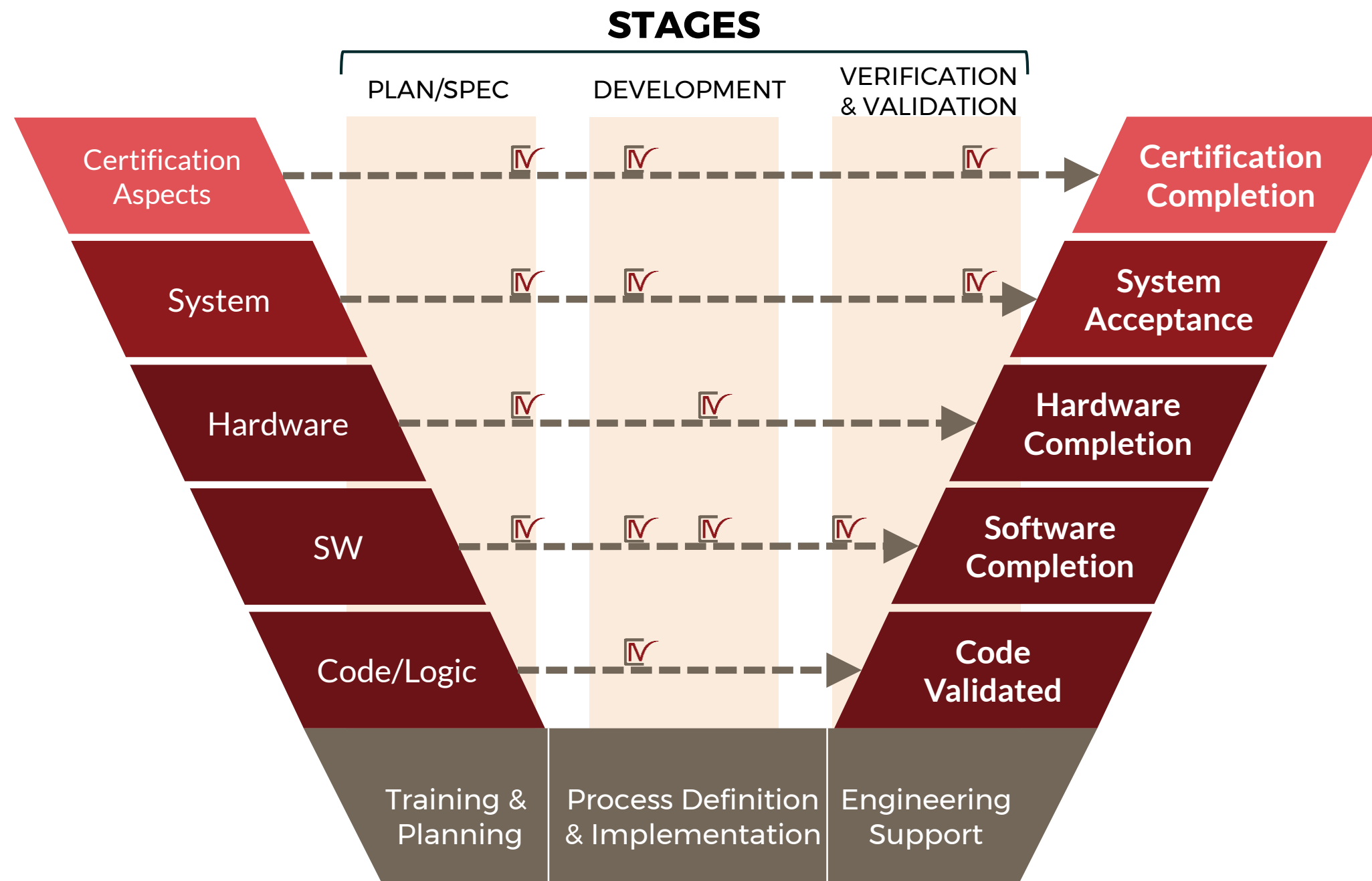
- Perform all technical reviews in one centralized platform.
- Consistent Audits / Reviews based on custom-defined workflow.
- Integrated CM reveals Real-time Data Items' Review Status.
- Track all review outcome in project dashboard.
- Self-Configuration with on-demand archiving for all Reviews.

Scalable Platform

- Fully web-based with scalable database.
- Subscription-based or Enterprise.
- Multi-project, Multi-user, Role and Security levels.
- Pre-Loaded checklists for all aspects of ARP 4754A/4761 and DO 178/254.
- Import your Review Checklists.
- Industry Independent.

- ✓ *What Data Items need reviews?*
- ✓ *What reviews are outdated?*
- ✓ *Who reviewed what?*
- ✓ *When Ready to show compliance?*
- ✓ *Consistent Review/Audit Process.*
- ✓ *Reduce Configuration Management.*
- ✓ *Dynamic questions per project criticality.*
- ✓ *Dynamic self-defined help platform.*

ConsuNova SNAPSHOT



 Highly Effective Areas

All levels of Certification

- Training, Planning, Gap Analysis
- Safety Assessments
- STC/TC/PMA/TSO Advice & Strategy
- FAA / EASA / MIL Liaison & DER

Integral Process Adoption

Systems & Software

- Definition
- Architecture & Design Corrections

HW (CEH)

- Advise, Methodology
- Design and Test Leadership

V&V

- Strategy & Efficiency
- Structural Coverage

CHALLENGES AHEAD!

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🌐 www.ConsuNova.com



We're ready to help!

CONTACT US TODAY!