CITREP+ Course Endorsement Process

Human Capital Development
TeSA Programme Office
19 Jan 2018

AGENDA

- CITREP+
- Skills Framework for ICT
- Highlights of CITREP+ Workflow
- Mapping to SF for ICT
- Transition of Existing NICF Courses
- Marketing & Outreach
- Key Takeaways
- Contact Details

INFOCOMM MEDIA DEVELOPMENT AUTHORITY

CITREP+

INFOCOMM MEDIA DEVELOPMENT AUTHORITY

CITREP+ OBJECTIVES

- To build a strong core of specialised Singaporean ICT professionals with **Smart Nation capabilities**

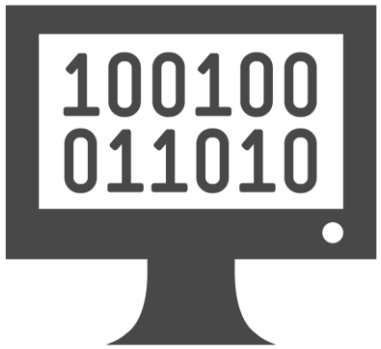
- To develop and offer quality infocomm professional development technology courses and professional certifications that impart **knowledge and skills in relevant areas**

SMART NATION FOCUS AREAS

Big Data &
Data Analytics

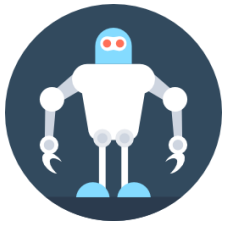
Cyber Security

Networks &
Infrastructure



Software
Development

Internet of Things



Artificial / Cognitive Intelligence

Immersive Media

Cyber Security

Block Chain / Fintech

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PROGRAMME SUPPORT

Category	Type	Singapore Citizen		Permanent Residents (*with effect from 1 August 2017 onwards)	
		Training Course and Certification only	Certification only	Training Course and Certification only	Certification only
Organisation-sponsored	Non SMEs	Up to 70% of the nett payable course and certification fees, capped at $3,000 per trainee	Up to 70% of the nett payable certification fees, capped at $500 per trainee	Up to 70% of the nett payable course and certification fees, capped at $3,000 per trainee	Up to 70% of the nett payable certification fees, capped at $500 per trainee
	SMEs	Up to 90% of the nett payable course and certification fees, capped at $3,000 per trainee		Up to 90% of the nett payable course and certification fees, capped at $3,000 per trainee	
	Professionals (40 years old and above)			Up to 70% of the nett payable course and certification fees, capped at $3,000 per trainee	
Self-Sponsored	Professionals	Up to 70% of the nett payable course and certification fees, capped at $3,000 per trainee	Up to 70% of the nett payable certification fees, capped at $500 per trainee	Up to 70% of the nett payable course and certification fees, capped at $3,000 per trainee	Up to 70% of the nett payable certification fees, capped at $500 per trainee
	Professionals (40 years old and above)	Up to 90% of the nett payable course and certification fees, capped at $3,000 per trainee			
	Students and/or Full-Time National Service (NSF)	Up to 100% of the nett payable course and certification fees, capped at $2,500 per trainee	Up to 100% of the nett payable certification fees, capped at $500 per trainee	Not eligible	

SKILLS FRAMEWORK FOR INFOCOMM TECHNOLOGY (SF FOR ICT)

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SKILLS FRAMEWORK IS THE FIRST THRUST OF TESA FOR

Employers to attract, retain and develop their talents

Individuals to plan their career development and progression

Education and training providers to design relevant programmes

Thrust 1: IDENTIFY

Skills Framework for ICT

- Career Pathways
- Job Roles
- Skill Maps

individuals

employers

training providers

Thrust 2: ACQUIRE

Upskilling, Deepening & Conversion Programmes

- Attach-and-Train
- Company Led Training
- Professional Conversion Programme
- Tech Immersion & Placement
- CITREP+
- NICF

Thrust 3: PLACE

Integrated Career Services

Career Facilitation

Career Advisory, Guidance, Job Matching, Group Mentoring

jobseekers

employers

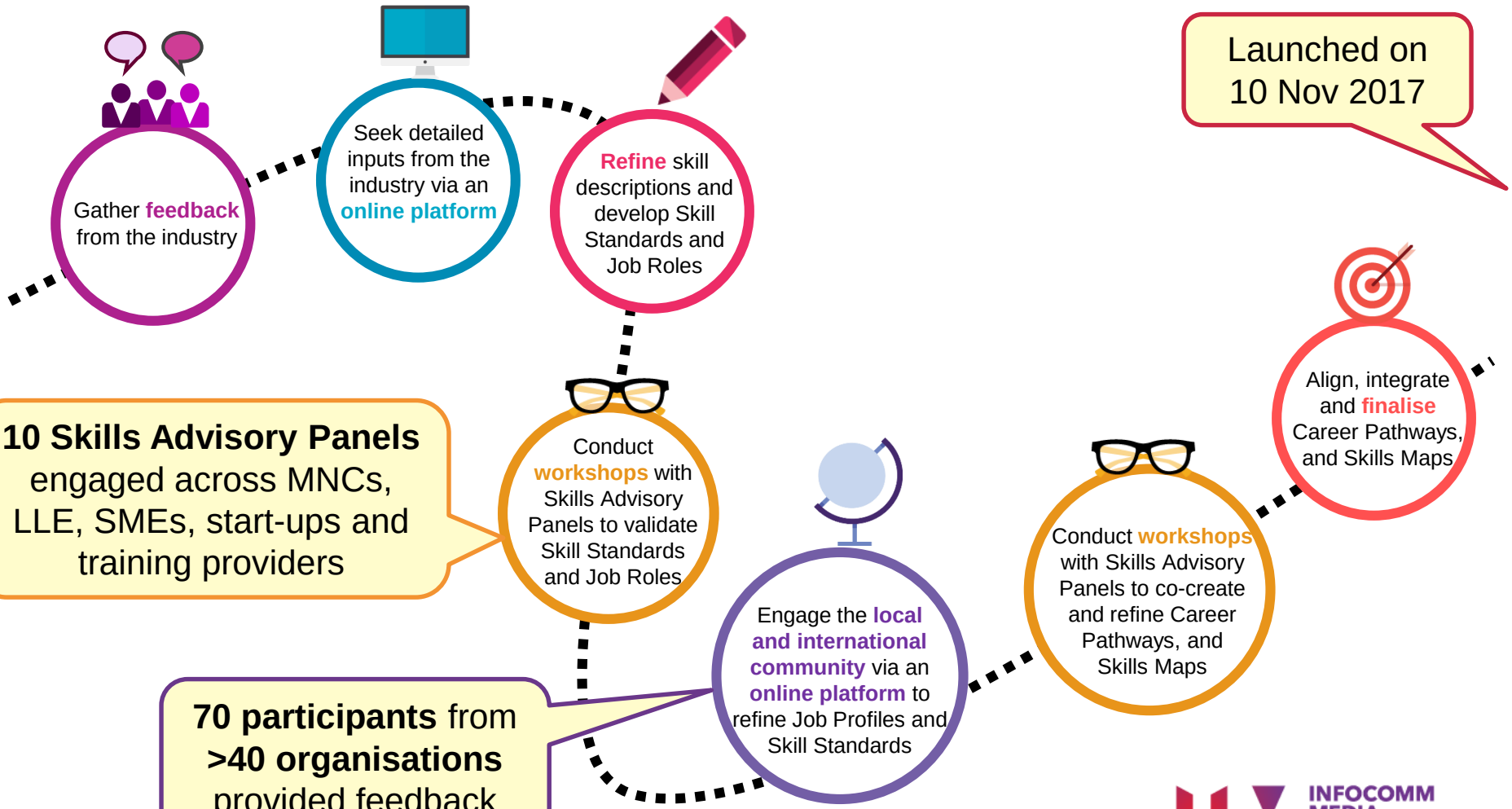
ntuc · Singapore Computer Society · SkillsFuture SG · WSG Workforce Singapore · IMDA Infocomm Media Development Authority · e2i Better Jobs For Life Employment and Employability Institute

MORE THAN 150 INDUSTRY PROFESSIONALS WERE ENGAGED IN THE DEVELOPMENT PROCESS SPANNING 18 MONTHS

STAGE 1
Mar 2016 to Sep 2016

STAGE 2
Oct 2016 to Apr 2017

STAGE 3
May 2017 to Sep 2017



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GOING FORWARD, NICF WILL CONTINUE AS A CET CREDENTIALING SYSTEM, AND TRAINING CURRICULA WILL BE ALIGNED TO THE NEW SKILLS FRAMEWORK

nicf NATIONAL INFOCOMM COMPETENCY FRAMEWORK
Jointly developed by IMDA and SSG

STATEMENT OF ATTAINMENT

is awarded to

JOHN SMITH
ID No: S1234567D

for successful attainment of the following industry approved competencies

IT-IS-305S-1 LOCATE EQUIPMENT, SYSTEM AND SOFTWARE FAULTS

at XXX Academy

17 OCTOBER 2013

Ng Cher Pong, Chief Executive
SkillsFuture Singapore Agency

Cert No. 140000000000005

The training and assessment of the abovementioned learner are accredited in accordance with the Singapore Workforce Skills Qualifications System.

www.ssg.gov.sg
For verification of this certificate, please visit https://e-cert.ssg.gov.sg

SKILLSfuture SG

SDA-IT-001

nicf NATIONAL INFOCOMM COMPETENCY FRAMEWORK
Jointly developed by IMDA and SSG

STATEMENT OF ATTAINMENT

is awarded to

JOHN SMITH
ID No: S1234567D

for successful attainment of the following industry approved competencies

New Skills Framework

ICT-OUS-2002-1.1 Network Administration and Maintenance (Proficiency Level 2)

at XXX Academy

17 OCTOBER 2013

Ng Cher Pong, Chief Executive
SkillsFuture Singapore Agency

Cert No. 140000000000005

The training and assessment of the abovementioned learner are accredited in accordance with the Singapore Workforce Skills Qualifications System.

www.ssg.gov.sg
For verification of this certificate, please visit https://e-cert.ssg.gov.sg

SKILLSfuture SG

SDA-IT-001

SKILLS FRAMEWORK FOR ICT IS MADE UP OF
1. A CATALOGUE OF 80 TECH SKILLS…

STRATEGY & ARCHITECTURE

Audit and Compliance
Business Continuity
Business Innovation
Business Process Re-engineering
Business Risk Management
Change Management
Cyber Risk Management
Data Governance
Data Strategy
Disaster Recovery Management
Emerging Technology Synthesis
Enterprise Architecture
Infrastructure Strategy
IT Governance
IT Standards
IT Strategy
Portfolio Management
Product Management
Quality Standards
Security Governance
Security Strategy
Sustainability Management

DEVELOPMENT & IMPLEMENTATION

Analytics & Computational Modelling
Application Development
Application Integration
Configuration Tracking
Data Engineering
Data Visualisation
Embedded Systems Programming
Infrastructure Deployment
Network Configuration
Quality Assurance
Quality Engineering
Security Assessment & Testing
Security Programme Management
Software Configuration
Software Testing
System Integration
Test Planning

OPERATIONS & USER SUPPORT

Application Support & Enhancement
Cyber Forensics
Cyber Incident Management
Data Centre Facilities Management
Data Migration
Database Administration
Infrastructure Support
IT Asset Management
Network Administration & Maintenance
Performance Management
Problem Management
Security Administration
Security Education & Awareness
Threat Analysis & Defence
Threat Intelligence & Detection

SALES & MARKETING

Account Management
Brand Management
Business Development
Content Strategy
Customer Experience Management
Integrated Marketing
Market Research
Marketing Strategy
Pricing Strategy
Sales Channel Management
Sales Strategy
Technical Sales Support

DESIGN

Data Design
Embedded Systems
Interface Design
Infrastructure Design
Security Architecture
Software Design
Solution Architecture
User Experience Design
User Interface Design

PROJECT MANAGEMENT

Business Needs Analysis
Programme Management

STAKEHOLDER & CONTRACT MANAGEMENT

Contract Management
Partnership Management
Procurement
Stakeholder Management

MEDIA DEVELOPMENT AUTHORITY

… AND 18 GENERIC SKILLS AND COMPETENCIES

- Communication
- Computational Thinking
- Creative Thinking
- Decision Making
- Develop People
- Digital Literacy
- Global Mindset
- Interpersonal Skills
- Leadership
- Lifelong Learning
- Managing Diversity
- Problem Solving
- Resource Management
- Sense Making
- Service Orientation
- Teamwork
- Transdisciplinary Thinking
- Virtual Collaboration

2. A CATALOGUE OF 119 ICT JOB ROLES

DATA

- Business Intelligence
- Data Engineering
- Data Science

INFRASTRUCTURE

- Planning and Design
- Implementation, Operations & Maintenance
- Cloud Computing

SOFTWARE & APPLICATIONS

- Product Management
- Systems Analysis
- Application Design & Development
- Platform Engineering
- Embedded Systems Engineering
- Software Quality Assurance
- User Interface & Experience

PROFESSIONAL SERVICES

- Enterprise Architecture
- Solutions Architecture
- Business Analysis
- Programme & Project Management
- IT Consulting & Implementation

SECURITY

- Governance, Risk & Compliance
- Security Operations
- Security Design & Engineering
- Incident Response, Forensic Investigation & Threat Analysis
- Security Penetration Testing & Certification

SUPPORT

- Systems & Database Administration
- Operations Support
- IT Audit
- Data Centre
- System & Quality Assurance

SALES & MARKETING

- Pre and Post-Sales
- Direct Sales
- Channel Sales
- Digital Marketing
- Product & Service Marketing

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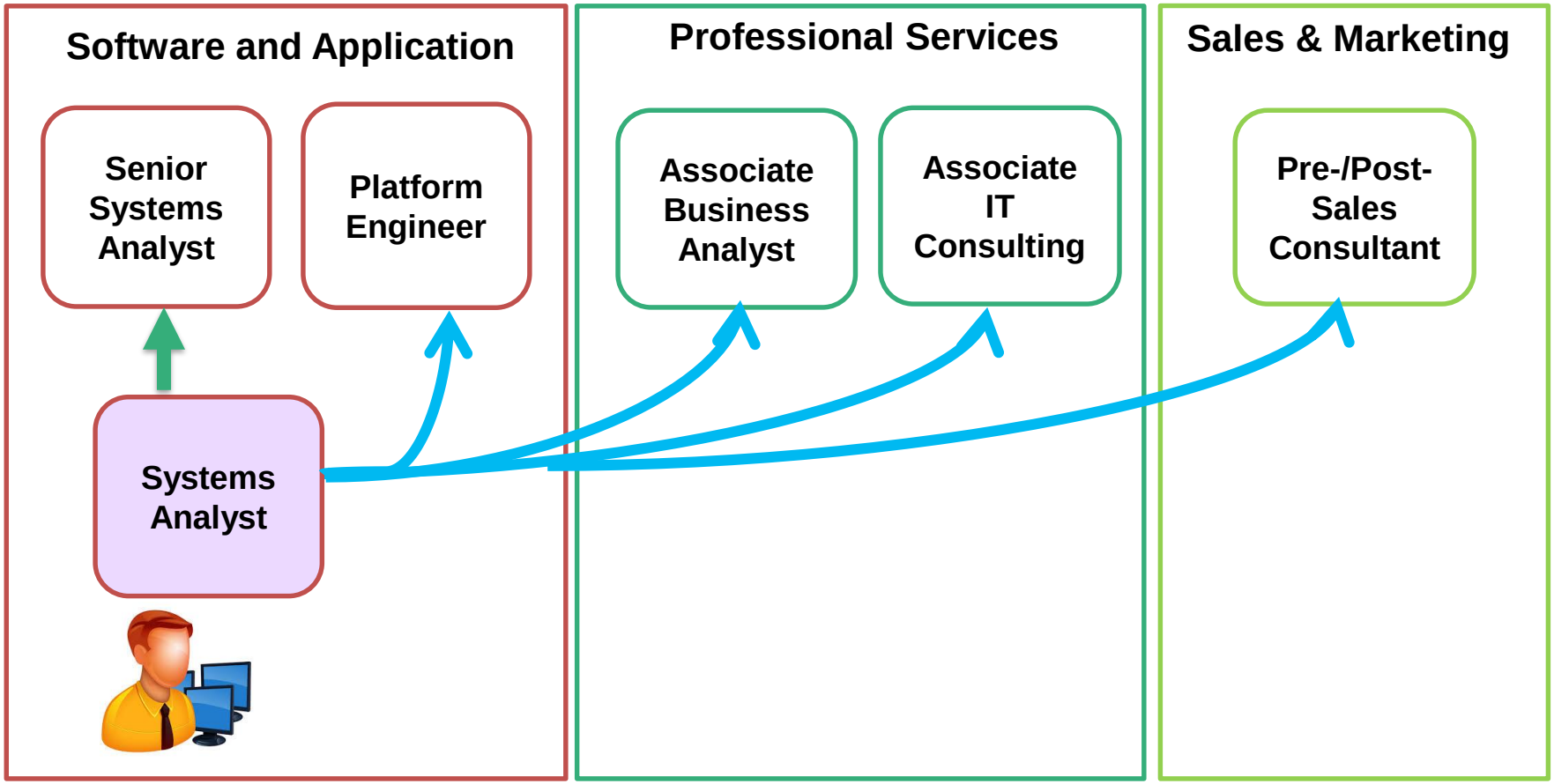
3. AND IDENTIFIES CAREER PATHWAYS



The career pathway would depend on individual performance, capability (skills and competencies), experience, aspiration and company needs.

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SF FOR ICT NAVIGATION TOOL

IMTALENT.SG/SFforICT

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HIGHLIGHTS OF CITREP+ WORKFLOW

CITREP+ WORKFLOW PROCESS

- Focus on <u>content evaluation</u>
- <u>Relevance</u> of the course/certification against key competencies in NICF or in the **Skills Framework for ICT**
- Processing time average 4 to 6 weeks

- Assessment of Course Provider adequacy
- Processing time average 1 to 3 weeks

- Course providers to enroll trainees before commencement of courses/exam

- Provide trainees with required supporting documents
- Trainees to submit claims upon completion

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CITREP+ WORKFLOW PROCESS

NICF Course Mapping

- **Alignment with NICF framework**
  - Course coverage must be mapped to at least **2 relevant competency units (CUs)** for each NICF job role(s) selected
    - **At least one of the required CU must be core** to the job role, where applicable.
- Please refer to **www.imda.gov.sg/CITREP** : CITREP+ Guides – **"NICF Mapping (1 April 2017 to 30 September 2018)"** for more information
- Validity of existing courses (which qualifies) will be extended to **30 September 2018**
- New courses mapped to NICF will be valid until **30 September 2018**

SF for ICT Course Mapping

NEW

- **Alignment with SF for ICT**
  - Relevant to **at least 1 SF for ICT Job Role**
  - Course coverage must be mapped to **at least 1 relevant Technical Skill & Competency** for each SF for ICT job role(s) selected
- Please refer to **www.imda.gov.sg/CITREP** : CITREP+ Guides – **"SF for ICT Mapping (1 April 2018 to 31 March 2019"** for more information
- All new course mapping valid from **1 April 2018 to 31 March 2019.**
- **Postfix "(SF for ICT)" behind course title** Eg, *"Introduction to Data Science (SF for ICT)".*

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CITREP+ WORKFLOW PROCESS

CITREP^{+} Course Endorsement validity will be up to:

1. **<u>31 March 2019</u>** if mapped to **SF for ICT**

   Enhanced Cap Funding:

   "CITREP+: SF (1 April 2017 – 31 March 2019)"

2. **<u>30 September 2018</u>** if mapped to **NICF**

   "CITREP+: NICF (1 April 2017 – 30 September 2018)"

   Enhanced Cap Funding:

   "CITREP+: NICF (1 May 2018 – 30 September 2018)"

   Note: Course mapping to NICF will not be available for courses/certifications with start dates from 1 October 2018

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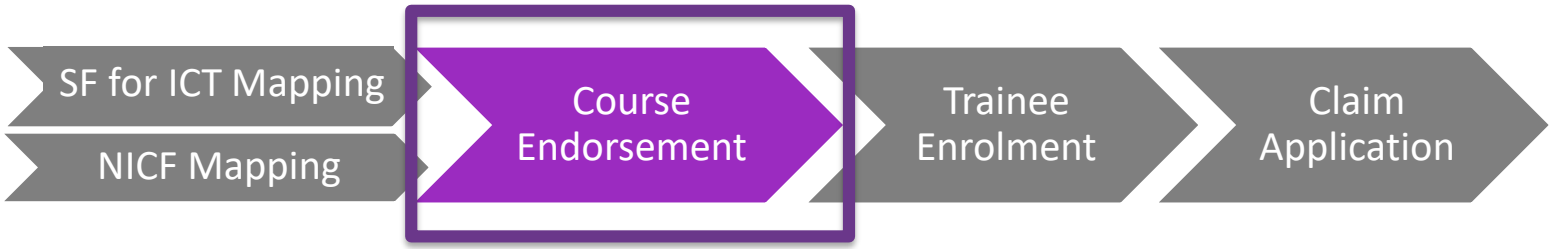
CITREP+ WORKFLOW PROCESS

Course Provider

- A legally registered business entity in Singapore
- Establishment & Track Record (minimum 2 course runs)
- Financial Status
- Management & Support Team (For CITREP related matters)
- Trainers
- Facilities & Equipment
- Appointment by Certificate Awarding Body (CAB)
  - ***Applicable to Certifiable Programme only***

CITREP+ WORKFLOW PROCESS



Types of Courses and Certification

- **Certifiable Programme**
  - Courses that lead to industry-recognised certifications
  - Appointment by Certificate Awarding Body (CAB)
- **Non-Certifiable Programme**
  - Aligned to Smart Nation Focus Areas / Emerging Tech Pillars
  - Proven capability in delivering training that are highly industry relevant
  - Incorporate best practices adopted by movers in the industry
  - May incorporate capstone projects to assess for applied learning

Total Duration of Course and Exam Completion

- Minimum – 3 Days, Maximum – 12 Months
- At least 7 hours face-to-face time

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CITREP+ WORKFLOW PROCESS

New Applications

- **CITREP+: NICF (1 April 2017 – 30 September 2018)**

Enhanced Cap Funding:

- **CITREP+: NICF (1 May 2018 – 30 September 2018)**
- **CITREP+: SF (1 April 2018 – 31 March 2019)**

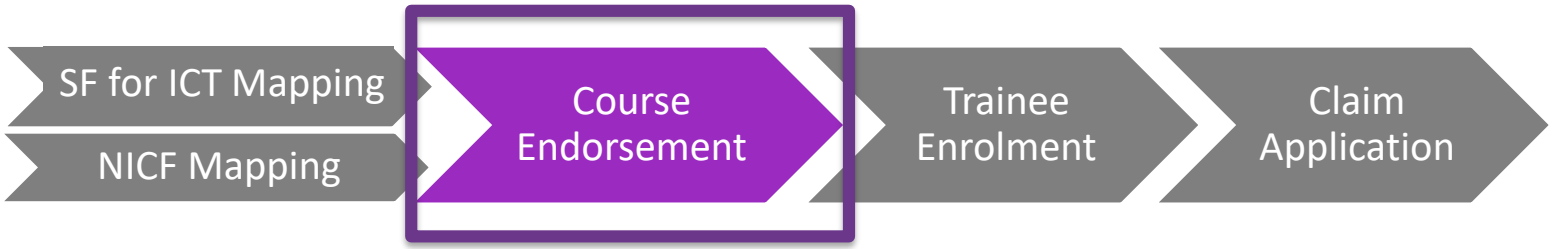
Estimated Processing Timeline

Course Mapping	**4-6 weeks upon complete submission**
Course Endorsement	**1-3 weeks upon complete submission**

Endorsement Term

- Upon approval, the endorsement term is valid till:
  - **30 September 2018** for courses mapped to **NICF**
  - **31 March 2019** for courses mapped to **SF for ICT**

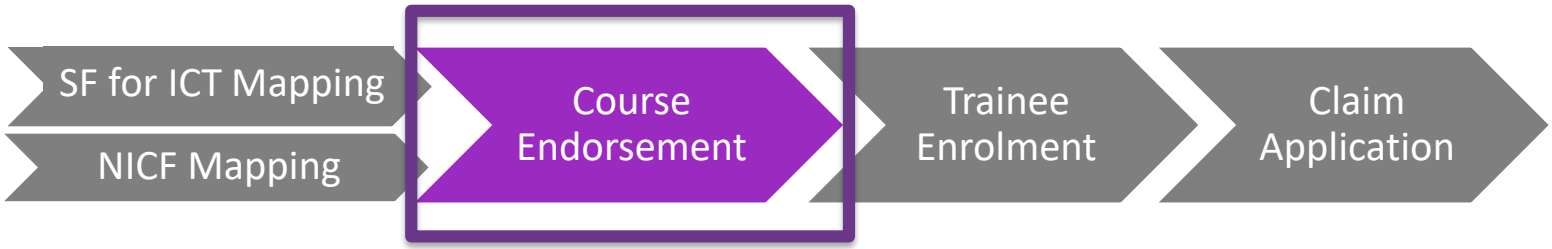
CITREP+ WORKFLOW PROCESS



Supporting Documents

- **Please refer to Appendix D of the Course Endorsement Guide for the Checklist of the required supporting documents to provide**

CITREP+ WORKFLOW PROCESS



Course Endorsement Application Submission

- Course Endorsement application are submitted online via the Infocomm Competency Management System (ICMS):
  - https://eservice.imda.gov.sg/icms
- Please refer to the **ICMS Course Mapping and Endorsement User Guide** for the steps to submit the Course Endorsement Application.

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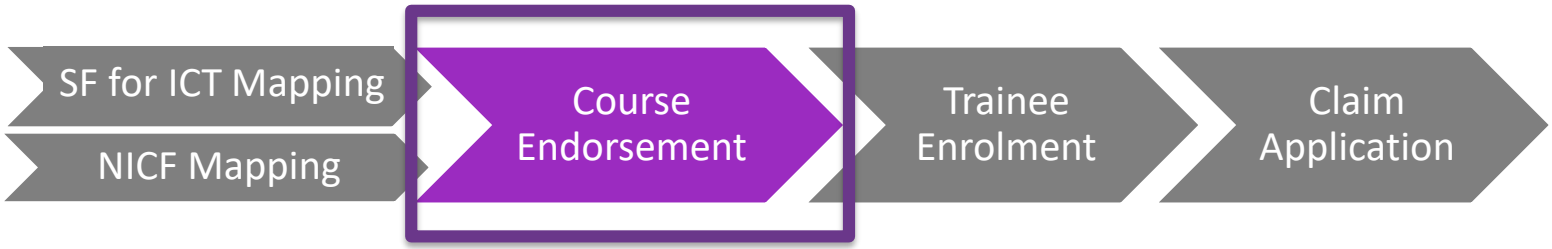
CITREP+ WORKFLOW PROCESS



Payable to "IMDA" upon application

Course Mapping with Endorsement	**S$600 per course application (subject to 7% GST) Total Payable: S$642**
Course Endorsement	**S$350 per course application (subject to 7% GST) Total Payable: S$374.50**

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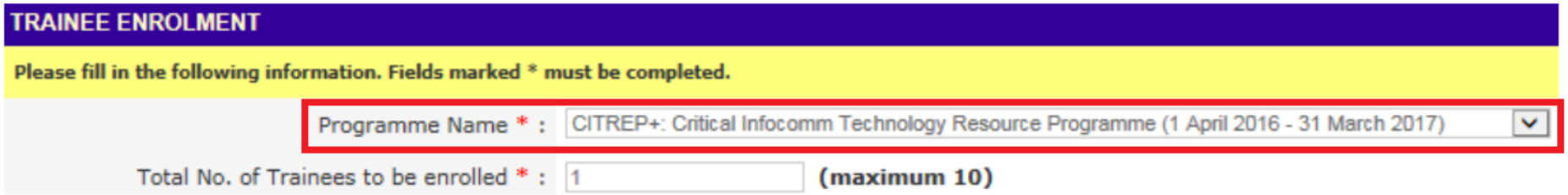
CITREP+ WORKFLOW PROCESS

Trainee Enrolment

- Course Providers are expected to create the trainee enrolment record(s) in ICMS:
  - **30** calendar days **before** the course and/or examination start date OR
  - Up to **5** calendar days **from** the course and/or examination start date
- Note: **Correct programme name** needs to be selected based on the programme name selected during course endorsement

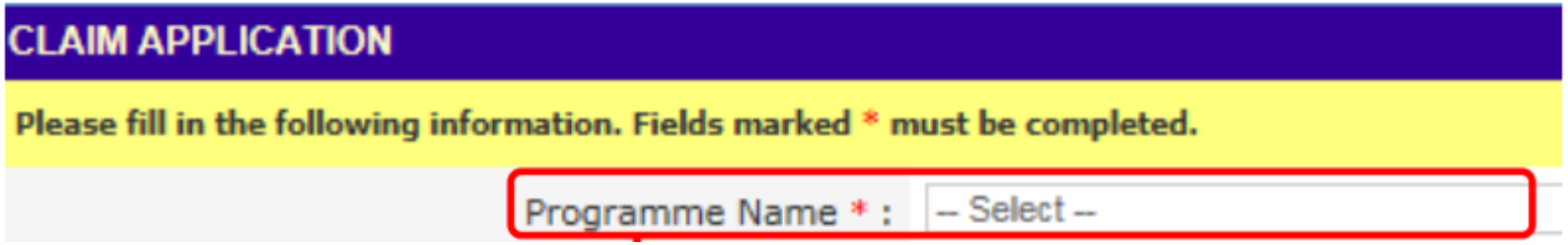


- Please refer to the **ICMS Trainee Enrolment [CP] User Guide** for the steps on Trainee Enrolment.

CITREP+ WORKFLOW PROCESS

Claim Application

- Individuals / Sponsoring Organizations will claim back CITREP+ funding from ICMS upon successful completion of the course/certification
- Course Providers to advise Individuals / Sponsoring Organisations to select the relevant Programme Name in ICMS based on Trainee Enrolment



- Please refer Individuals and Sponsoring Organizations to the respective **ICMS Claim Application User Guide** for the steps on Claim Application.

MAPPING TO THE SF FOR ICT

INFOCOMM MEDIA DEVELOPMENT AUTHORITY

CITREP+ WORKFLOW PROCESS

Online Submission – Setting up course application on ICMS

1) Submit an online application through the **ICMS portal**
2) Under Programme Term, select **"CITREP+: SF (1 April 2018 – 31 March 2019)"**
3) Under **Skills Area** select ***"Skills Area - SF ICT <Track>"***
4) Under **Job Role** select ***"SF for ICT – <Track>"***
5) Under **NICF CU** select ***"SF for ICT – <Track>"***
6) Take note of the **Course/Certification ID** which is to be filled up in the offline submission

Offline Submission – For SF for ICT Course Mapping

1) Identify a relevant **SF for ICT Track -> Sub-Track -> Job Role**
2) Identify **at least ONE relevant Technical Skill and Competency (TSC)** from each selected Job Role
3) Submit the **"SF for ICT Mapping (Excel)"** to CITREP@IMDA.GOV.SG with subject heading "CITREP COURSE MAPPING TO SF FOR ICT"

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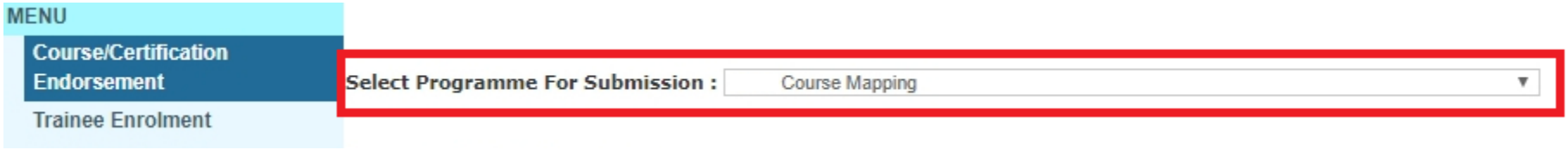
SF FOR ICT – ONLINE SUBMISSION

SF for ICT Mapping → Course Endorsement → Trainee Enrolment → Claim Application

1) Submit an online application through the **ICMS portal**



Refer to ICMS Course Mapping and Endorsement User Guide for the step by step guide on submitting a Course Mapping / Endorsement.

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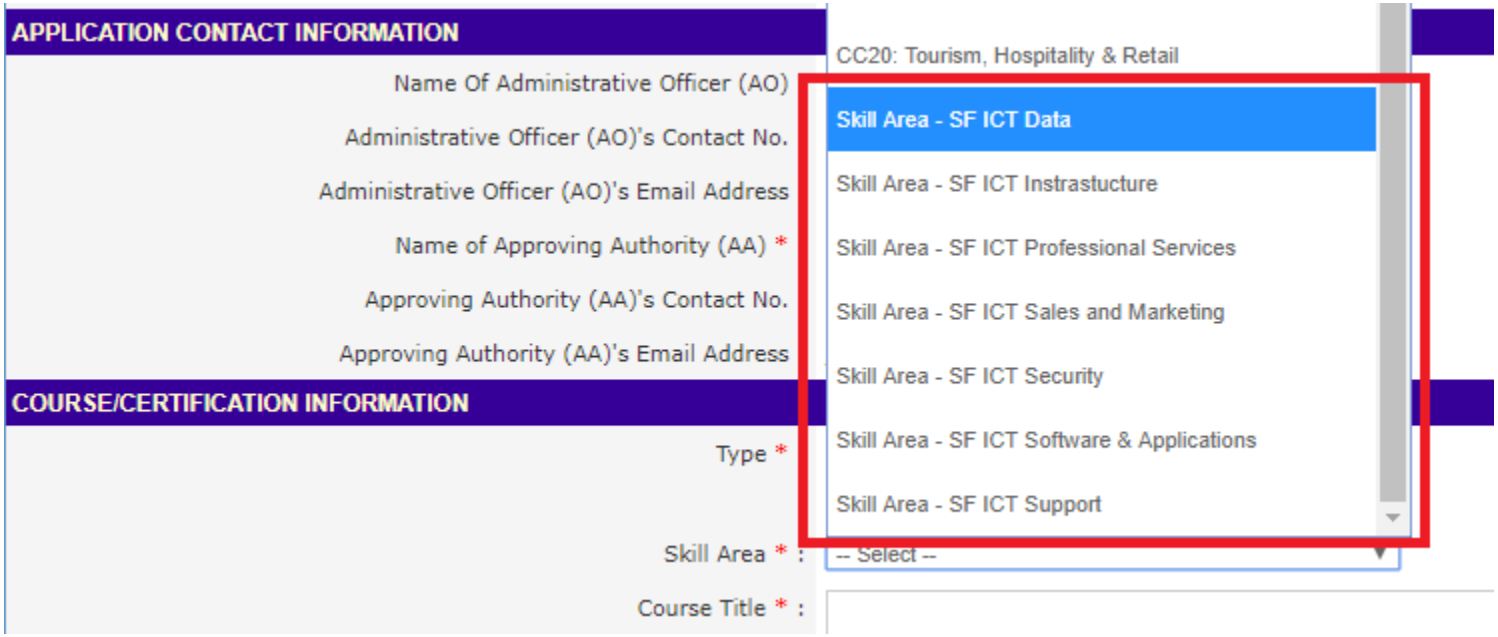
SF FOR ICT – ONLINE SUBMISSION

SF for ICT Mapping → Course Endorsement → Trainee Enrolment → Claim Application

2) Under **Skills Area**, select:

"Skills Area – SF ICT <Track>"



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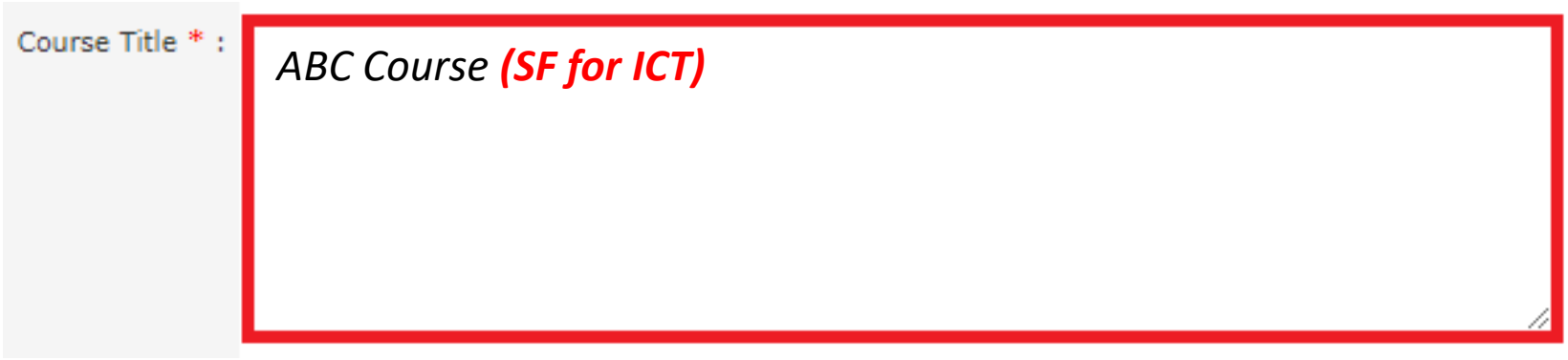
SF FOR ICT – ONLINE SUBMISSION

3) Under **Course Title**, input:

"<Course Title> (SF for ICT)"



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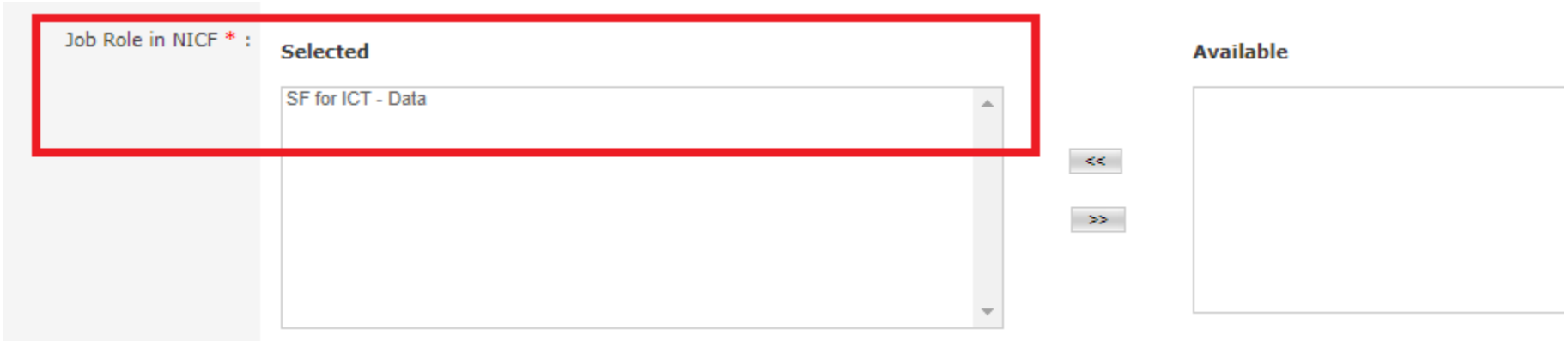
SF FOR ICT – ONLINE SUBMISSION

SF for ICT Mapping → Course Endorsement → Trainee Enrolment → Claim Application

4) Under **Job Role in NICF**, select:
"SF for ICT – <Track>"



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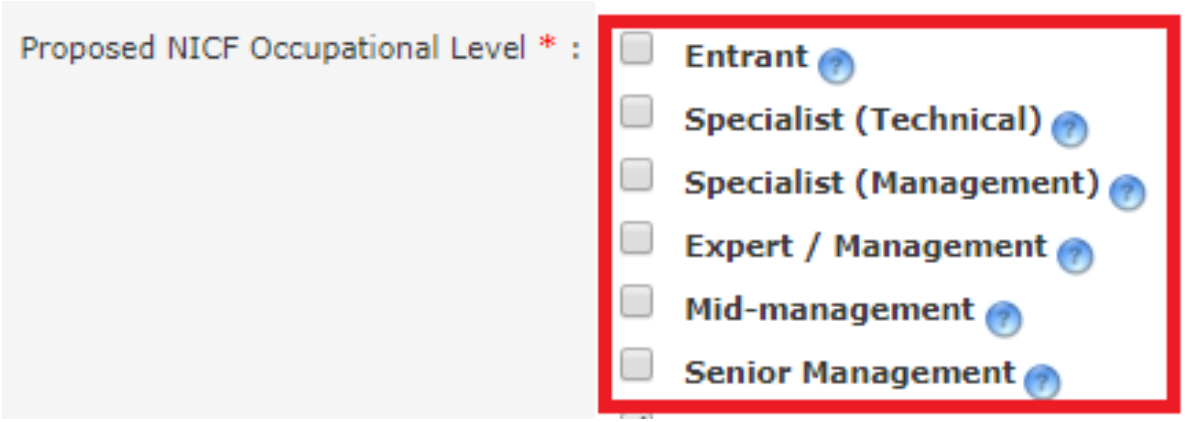
SF FOR ICT – ONLINE SUBMISSION

SF for ICT Mapping → Course Endorsement → Trainee Enrolment → Claim Application

5) Under **Proposed NICF Occupational Level**, select the most appropriate level. You may select more than 1.



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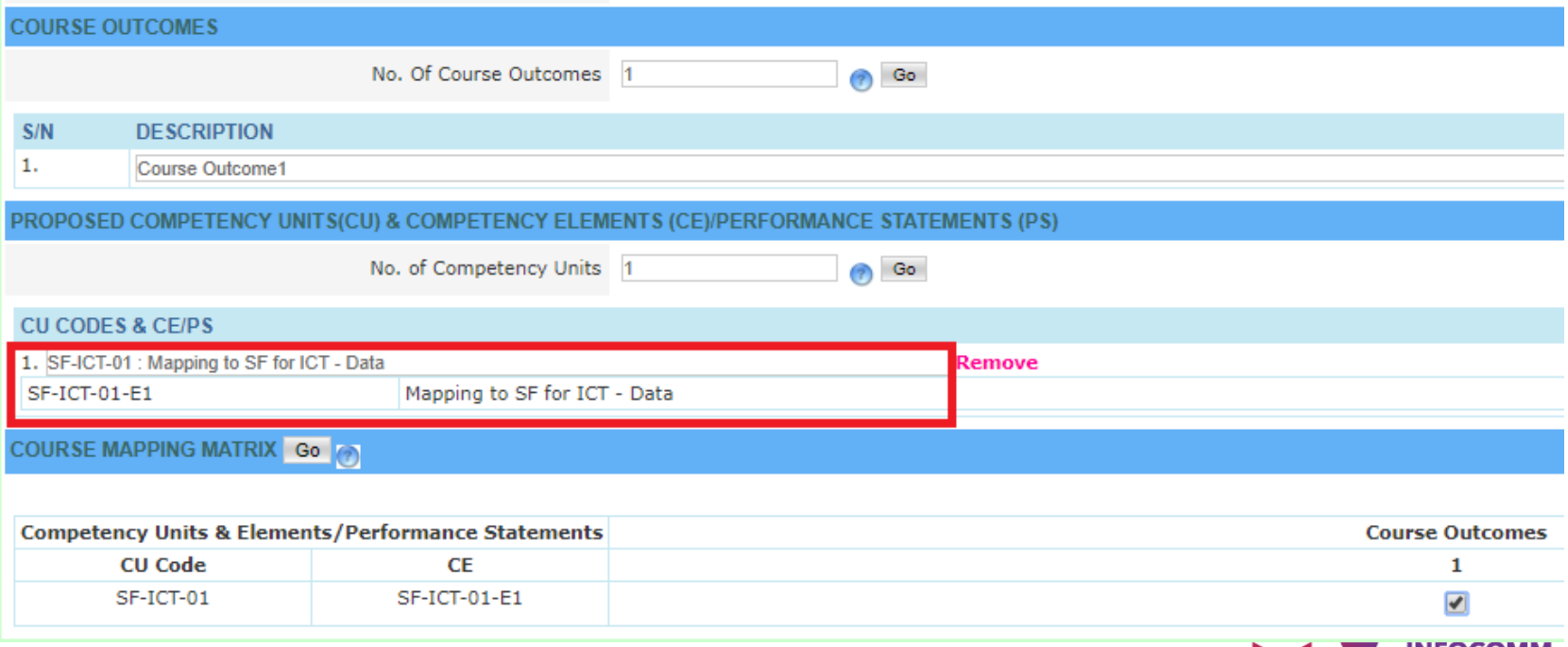
SF FOR ICT – ONLINE SUBMISSION

SF for ICT Mapping → Course Endorsement → Trainee Enrolment → Claim Application

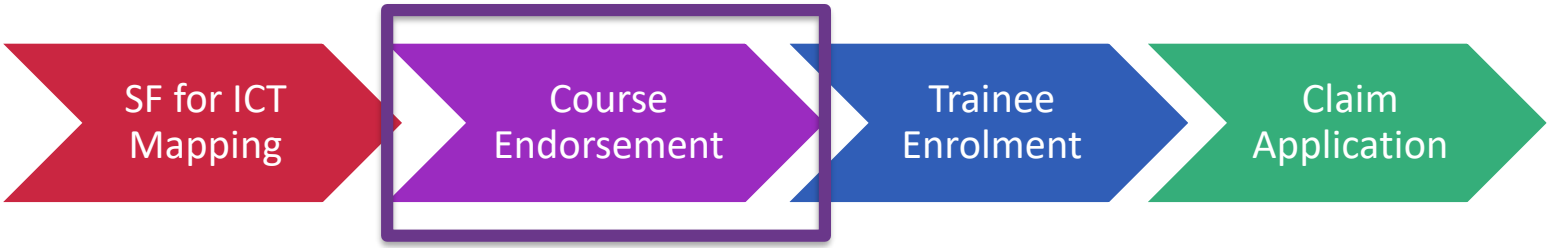
6) Under **CU CODES & CE/PS**, select:

"SF-ICT-XX : Mapping to SF for ICT - <Track>"



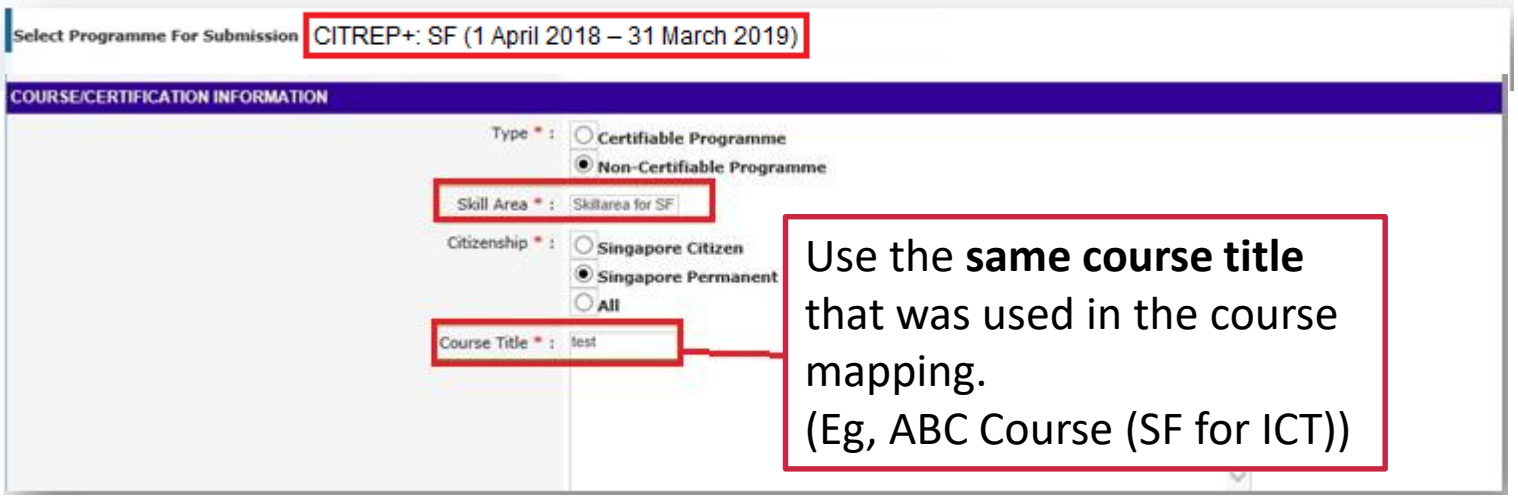
INFOCOMM MEDIA DEVELOPMENT AUTHORITY

SF FOR ICT – ONLINE SUBMISSION



1) Under **Programme Name,** Select:

"CITREP+: SF (1 April 2018 – 31 March 2019)"



Refer to ICMS Course Mapping and Endorsement User Guide for the step by step guide on submitting a Course Mapping / Endorsement.

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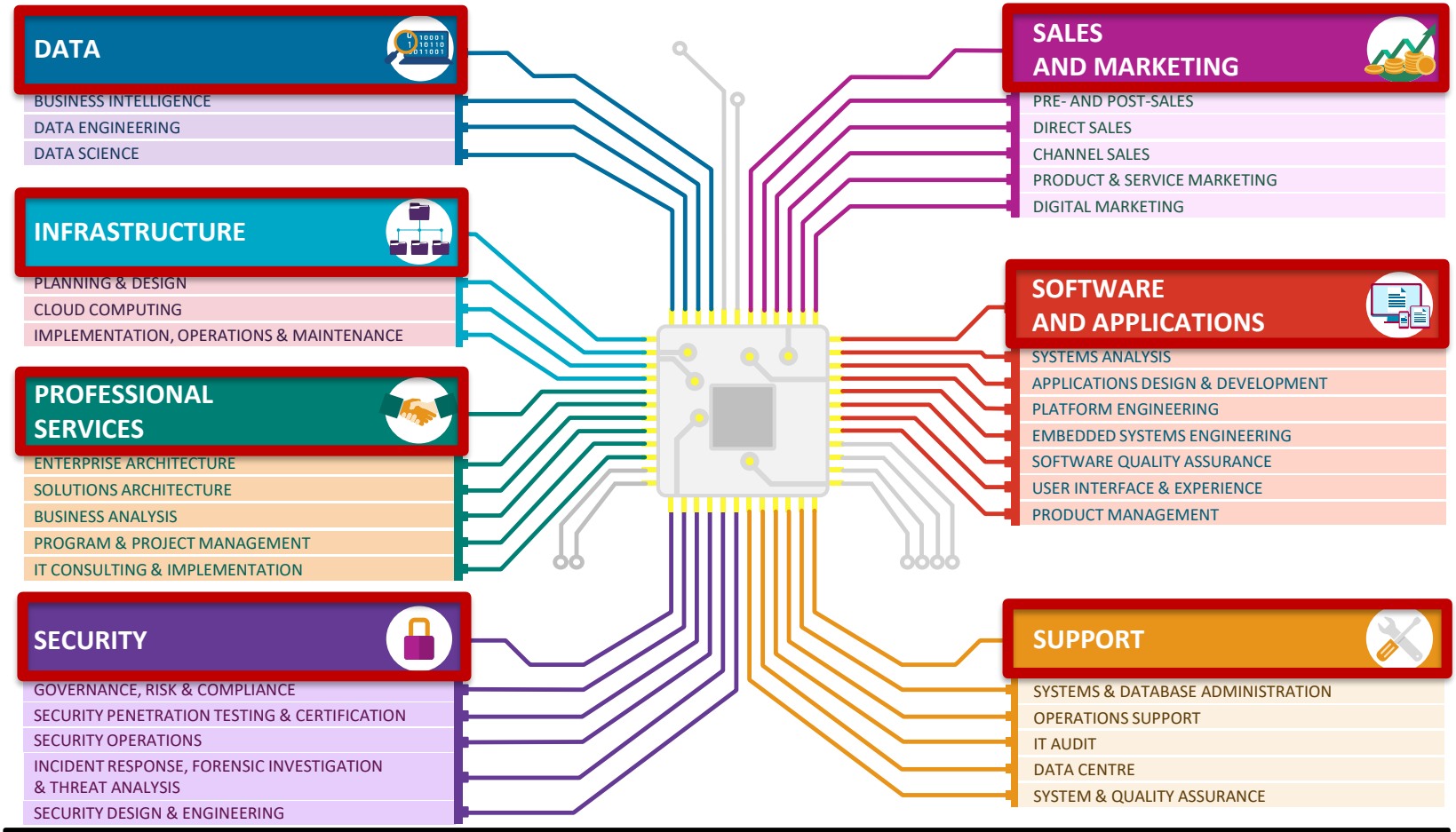
SF FOR ICT – OFFLINE SUBMISSION

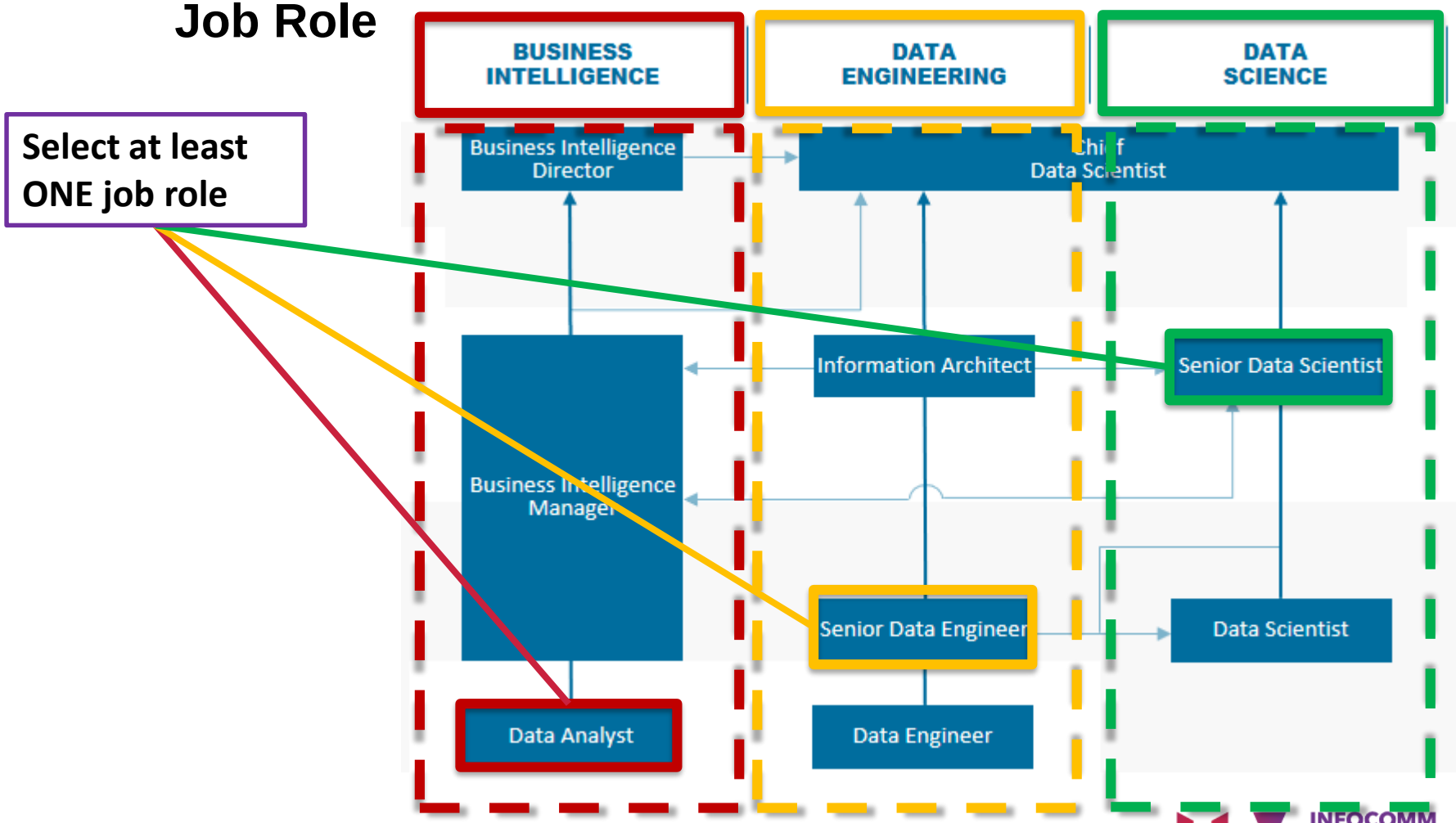
1) Identify a relevant **SF for ICT Track -> Sub-Track -> Job Role**



Refer to IMTALENT.SG/SFforICT or www.imda.gov.sg/CITREP (CITREP+ -> CITREP+ Guides) for access to the SF for ICT Navigation Tool online

SF FOR ICT – OFFLINE SUBMISSION

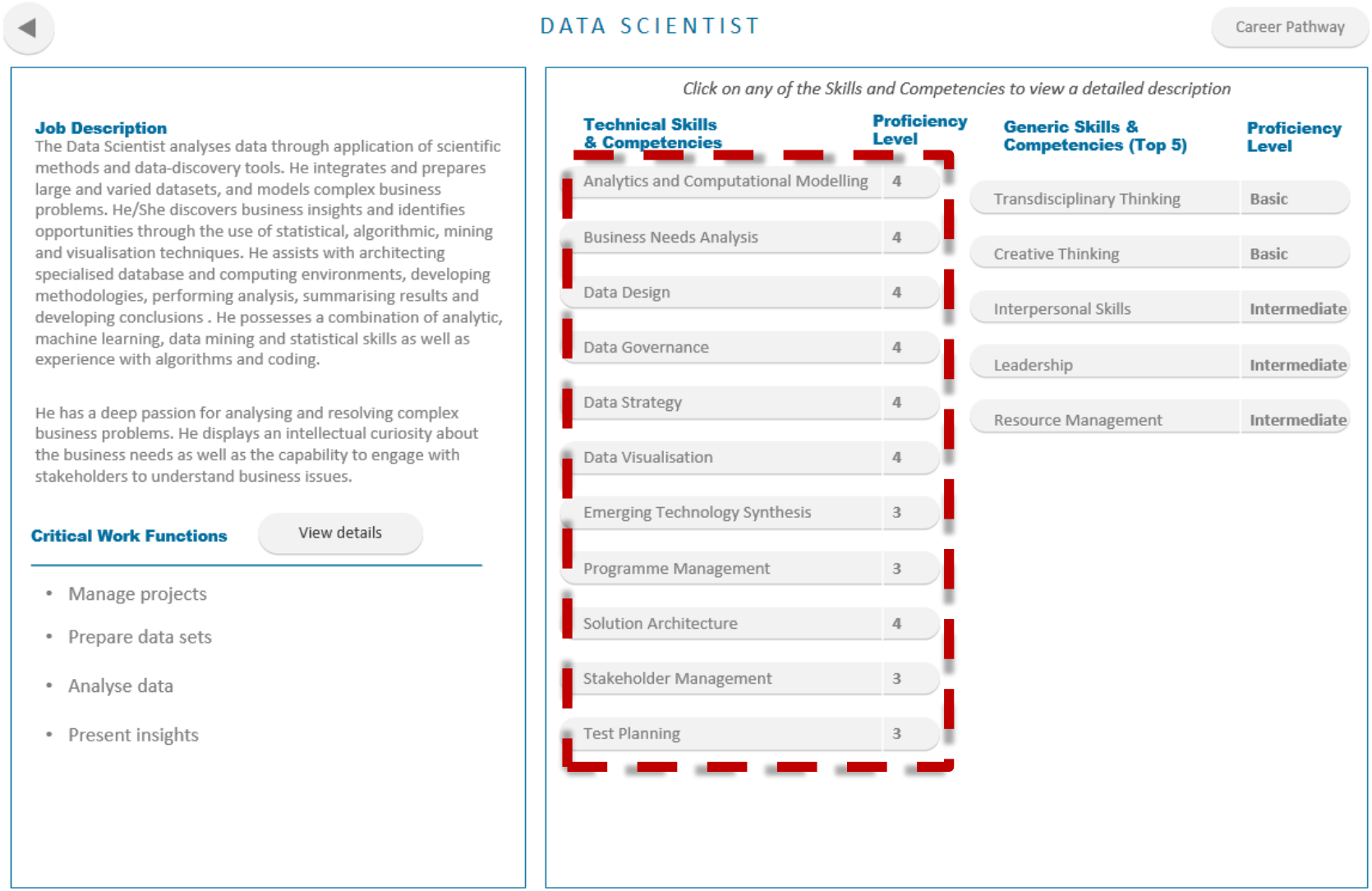
1) Identify a relevant **SF for ICT Track -> Sub-Track -> Job Role**



INFOCOMM MEDIA DEVELOPMENT AUTHORITY

SF FOR ICT – OFFLINE SUBMISSION

2) Identify **at least ONE relevant Technical Skill and Competency (TSC)**



SF FOR ICT – OFFLINE SUBMISSION

2) Identify **at least ONE relevant Technical Skill and Competency (TSC)**

TSC Category	Development and Implementation					
TSC	Analytics and Computational Modelling					
TSC Description	Develop, select and apply algorithms and advanced computational methods to enable systems or software agents to learn, improve, adapt and produce desired outcomes or tasks. This also involves the interpretation of data, including the application of data modelling techniques to explore and address a specific issue or requirement					
TSC Proficiency Description	Level 1	Level 2 ICT-DIT-2001-1.1	Level 3 ICT-DIT-3001-1.1	Level 4 ICT-DIT-4001-1.1	Level 5 ICT-DIT-5001-1.1	Level 6
		Perform basic data analysis and assist in conducting basic statistical modelling, drawing accurate inferences from the data.	Identify and utilise appropriate statistical algorithms and data models to test hypotheses and derive patterns or solutions.	Develop and utilise new algorithms and advanced statistical models to enable the production of desired outcomes.	Design advanced statistical and computational models, and spearhead the application of algorithms and modelling techniques to new domains.	
Knowledge		• Hypothesis testing concepts and methods • Common statistical methods in data analysis • Various kinds of data analysis • Basic statistical models • Interpretation of data outcomes and findings	• Types of algorithms and advanced computational methods • Range and application of various statistical algorithms • Range and application of various types of data models • Usage of analytics platforms and tools • Statistical modelling techniques • Coding languages for programming of algorithms and signals • Potential reasons for unintended outcomes	• Range of statistical and advanced computational modelling techniques • Advanced mathematical models and theories • Elements of various algorithms • Features and applicability of various data models • Features, pros and cons of various statistical approaches, algorithms and tools • Testing procedures to evaluate statistical models • Impact of changes to algorithms and models on performance outcomes	• Industry developments and trends in analytics, algorithms and statistical modelling • New and emerging data analytics and modelling tools and methodologies • Broad range of algorithms and advanced programming techniques • Elements of complex or advanced algorithms and computational models • Applicability of various data analytics methodologies and techniques to address different business issues	

Refer to IMTALENT.SG/SFforICT or www.imda.gov.sg/CITREP (CITREP+ -> CITREP+ Guides) to download the SF for ICT TSC documents

SF FOR ICT – OFFLINE SUBMISSION

2) Identify **at least ONE relevant Technical Skill and Competency (TSC)**

Abilities		• Apply hypothesis testing concepts and methods on data • Identify appropriate statistical methods to address simple or commonly-encountered problems or issues • Provide assistance in conducting basic statistical modelling • Perform data analysis using basic statistical methods and techniques, to determine the relationship between variables • Identify unintended outcomes produced by analytical models • Draw accurate inferences from data	• Identify appropriate statistical algorithms and data models to test hypotheses or theories • Use appropriate analytics platforms and analytical tools given specific analytics and reporting requirements • Utilise a range of statistical methods and analytics ap proaches to data • Conduct statistical modelling of data to derive patterns / solutions • Perform coding and configuration of software agents or programs based on a selected model or algorithm • Conduct tests on the actions taken and outcomes to assess effectiveness of the model • Diagnose unintended outcomes produced by analytical models • Propose changes or updates to the model or algorithms applied • Implement changes to the coding and configuration of software agents or programs • Draw relevant trends and insights from data analysis to support decisions	• Evaluate prospective analytical tools and platforms for their functional capabilities and ability to meet requirements of the analytic environment • Develop new algorithms to enable the learning, improvement, adaptation or reproduction of outcomes • Develop regression models, including linear, multiple and logistic regression models • Develop mathematical models to isolate trends and optimise data-driven decision making • Create learning models with a discrete set of environment states, actions and reinforcement signals • Develop testing procedures to evaluate the data model • Analyse root causes of any issues highlighted • Facilitate changes to statistical models, to optimise performance and yield intended outcomes • Apply complex and advanced statistical analysis and modelling techniques • Uncover underlying relationships among different variables	• Direct data analytics and statistical modelling efforts across the organisation • Make decisions on appropriate data analytics and computational methodologies to the problem • Design complex or advanced statistical and computational models • Evaluate a broad range of algorithms and advanced computational methods to determine suitability for business context • Spearhead the application of algorithms, models and computational techniques to new domains • Establish guidelines for the creation and selection of effective algorithms and statistical models • Synthesise critical findings and insights to address a significant business need or problem	
Range of Application		Types or sub-specialties of algorithms and advanced computational methods may include, but are not limited to: • Machine learning • Natural language processing • Geospatial algorithms • IoT time series				

SF FOR ICT – OFFLINE SUBMISSION

3) Submit the **"SF for ICT Mapping (Excel)"** to CITREP@IMDA.GOV.SG

Snapshot of SF for ICT Mapping (Excel):

Course Provider Information			Mapping to SF for ICT			
Course Title	**Track**	**Sub-Track**	**Job Role**	**Technical Skill Competency**	**Proficiency level**	**Remarks**
abc course	Data	Data Science	Data Scientist	Analytics and Computational Modelling	Level 5	

Indicate "Y" under respective Emerging Areas, where applicable					
Artificial Intelligence	**Cyber Security**	**Immersive Media**	**Internet of Things**	**Fintech**	**Blockchain**
--Select--	--Select--	--Select--	--Select--	--Select--	--Select--

TSC	TSC Category	Description	Proficiency Level	Proficiency Level Description	Knowledge	Abilities	Course Outcomes	Reference to Course Materials	Remarks
Analytics and Computational Modelling	Development and Implementation	Develop, select and apply algorithms and advanced computational methods to enable systems or software agents to learn, improve, adapt and produce desired	Level 5	Design advanced statistical and computational models, and spearhead the application of algorithms and modelling techniques to new domains.	• Industry developments and trends in analytics, algorithms and statistical modelling • New and emerging data analytics and modelling tools and	• Direct data analytics and statistical modelling efforts across the organisation • Make decisions on appropriate data analytics and computational methodologies to the problem • Design complex or advanced statistical and			

SUPPORTED SF FOR ICT TSCS

- **Course and Certification** support level

Skill Category: Strategy and Architecture

- All TSCs (Eg, Cyber Risk Management, Data Strategy, etc)

Skill Category: Design

- All TSCs (Eg, Data Design, User Interface Design, etc)

Skill Category: Development and Implementation

- All TSCs (Eg, Analytics and Computational Modeling, Application Development, etc)

Skill Category: Operations and User Support

- All TSCs (Eg, Cyber Forensics, Infrastructure Support, etc)

Skill Category: Sales & Marketing

- Technical Sales and Support

SUPPORTED SF FOR ICT TSCS

- **Certification** support level

Skill Category: Stakeholder and Contract Management

- All TSCs (Eg, Contract Management, Stakeholder Management, etc)

Skill Category: Project Management

- All TSCs (Eg, Business Needs Analysis, Programme Management)

TRANSITION OF EXISTING NICF COURSES

INFOCOMM MEDIA DEVELOPMENT AUTHORITY

EXTENSION OF EXISTING NICF COURSES/CERTIFICATIONS

- Existing NICF courses/certifications approved in FY2017 will be extended for 6 months until **30 September 2018** or until end of approval period from Certificate Awarding Body (CAB) whichever is earlier.
- Ensure that letters of approval (or relevant) for CABs are updated submitted to IMDA for processing
- Transition to SF for ICT required prior to 30 September 2018
- **Existing courses** submitted for transition to SF for ICT **before 30 September** will have their **course mapping/endorsement fees waived**

NICF VS SF FOR ICT

NICF	SF for ICT
525 Competency Standards	**80** Technical Skills and Competencies

SF for ICT Course Mapping

- Relevant to **at least 1 SF for ICT Job Role**
- Course coverage must be mapped to **at least 1 relevant Technical Skill & Competency** for each SF for ICT job role(s) selected

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SAMPLE MAPPING GUIDE

WDA_Unit_Code	Dimension	Competency Category	Competency Unit	Unit Purpose & Overview	Performance Statement	TSC Code	Skills	PL	Abilities	Knowledge	% Mapped	Areas to top up for those >75%	Areas to top up for those betw 50% and
IT-BDA-301S-1	IT Skills	Big Data Analytics	Apply data science and big data analytics knowledge	This unit defines the introduction of data science and big data analytics. It covers the knowledge of the data analytics lifecycle, data analytics methods, as well as	1. Demonstrate understanding of data analytics lifecycle and its activities 2. Demonstrate understanding of different		Analytics and Computational Modelling	3	▪ Identify appropriate statistical algorithms and data models to test hypotheses or	▪ Types of algorithms and advanced computational methods			
IT-BDA-302S-1	IT Skills	Big Data Analytics	Prepare data for big data analytics	The unit defines the competency to ingest and prepare the data for big data analytics. It involves reviewing the data requirements, ingesting and cleansing the data required	1. Review the data requirements required for the analytics project 2. Ingest data from different data sources		Analytics and Computational Modelling	3					
IT-BDA-401S-1	IT Skills	Big Data Analytics	Analyse data and identify business insights	The unit defines the competency to analyse different types of data to address the hypothesis and working with the stakeholders to identify business insights.	1. Review the hypotheses to address problem statements for the analytics project 2. Explore the data in the analytics platform/organisation to familiarise with the		Analytics and Computational Modelling	4	▪ Evaluate prospective analytical tools and platforms for their functional capabilities	▪ Range of statistical and advanced computational modelling techniques			
IT-BDA-402S-1	IT Skills	Big Data Analytics	Apply data visualisation	The unit defines the competency required to develop data visualisation. It includes understanding the purpose and key factors of the data visualisation, identifying the	1. Identify key factors that may affect the success of data visualisation 2. Assess the data to be visualised based		Data Visualisation	3	▪ Select appropriate visualisation techniques and information displays	▪ Interpretation of data analysis and findings ▪ Types of information displays			
IT-BDA-403S-1	IT Skills	Big Data Analytics	Operationalise the analytics models	The unit defines the competency to deploy the agreed statistical model into the production environment for users operational use. It involves working with	1. Select the runtime environment for the statistical model to be deployed and user requirements with the relevant stakeholders		Analytics and Computational Modelling	4					

IMPORTANT CITREP+ RESOURCES

- For detailed information on CITREP+, please visit www.imda.gov.sg/CITREP (CITREP+ -> CITREP+ Guides)

MARKETING & OUTREACH

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LOGO GUIDELINES FOR ENDORSED CITREP+ COURSES

- Please refer to **"CITREP+ Logo Usage Guidelines"**

In Partnership With:

TeSA TECHSKILLS ACCELERATOR An initiative of SkillsFuture

Driven by:

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TRAINEE PROFILES FOR MARKETING & OUTREACH

- Submit CITREP+ Trainee Profiles by **End Jan 2018** to:
  - **CITREP@IMDA.GOV.SG**

HUMAN INTEREST STORY

Personal Details			
Full Name*			
Name in			
Gender*		Year of Birth*	
Race*		Nationality*	
Designation*			
Company*			
For Features and Interviews			
English (Spoken language proficiency) *	*e.g. fluent*	Others: *please state language* (Spoken language proficiency)	*e.g. fluent*
Willingness to be interviewed by media*	*Yes/No*	Types of interviews allowed	*e.g. media interviews for written articles, video recordings for digital channels, TV appearances etc.*
Professional Background			
Domain Area*	*e.g. Data Science, Cyber Security etc.*	Career Switch to Infocomm Media *e.g. Sales and Marketing to Software Development*	*Yes or No*
Sector*	*e.g. Technology, Healthcare IT etc.*	Any notable projects	

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KEY TAKEAWAYS

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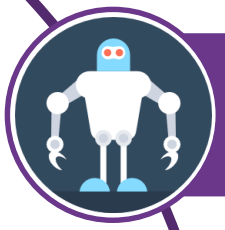
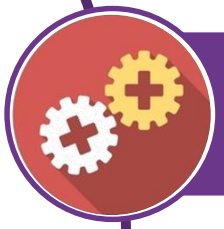
KEY TAKEAWAYS



Focus on IMDA Emerging Tech Pillars



New Workflow for SF for ICT Mapping

Transition of Existing NICF Courses

Marketing & Outreach Workflows

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CONTACT DETAILS

INFOCOMM MEDIA DEVELOPMENT AUTHORITY

CITREP+ & COURSE MAPPING - CONTACTS

Hotline	• 6324 8737
Email	• citrep@imda.gov.sg
Website	• **CITREP** www.imda.gov.sg/**CITREP** • **NICF** www.imda.gov.sg/CITREP - CITREP+ Guides "NICF Framework for CITREP+ Course Mapping" • **SF for ICT** www.imda.gov.sg/CITREP - CITREP+ Guides "SF for ICT for CITREP+ Course Mapping"

INFOCOMM MEDIA DEVELOPMENT AUTHORITY

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- ICMS Helpdesk
- 6324-8737
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Q&A

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