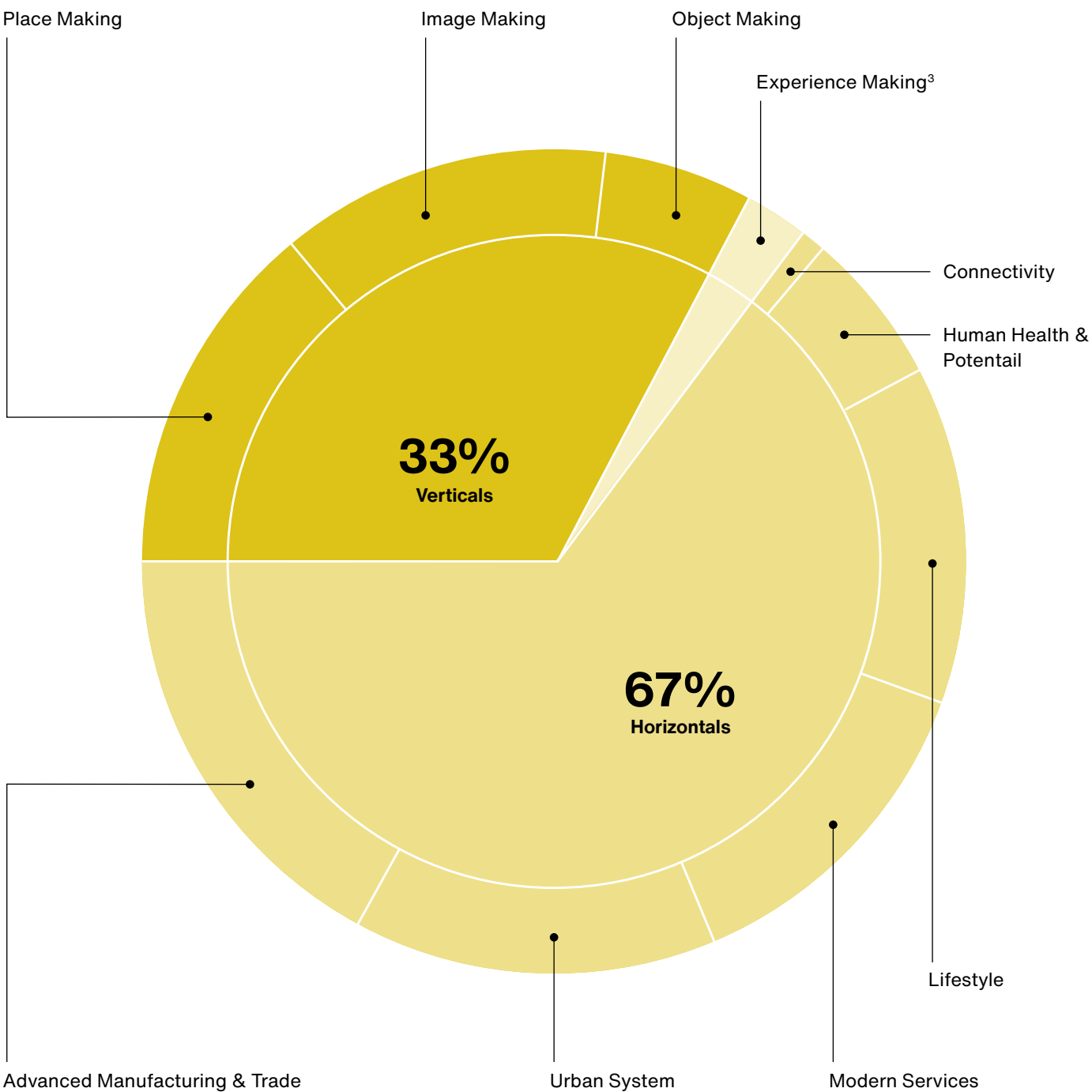


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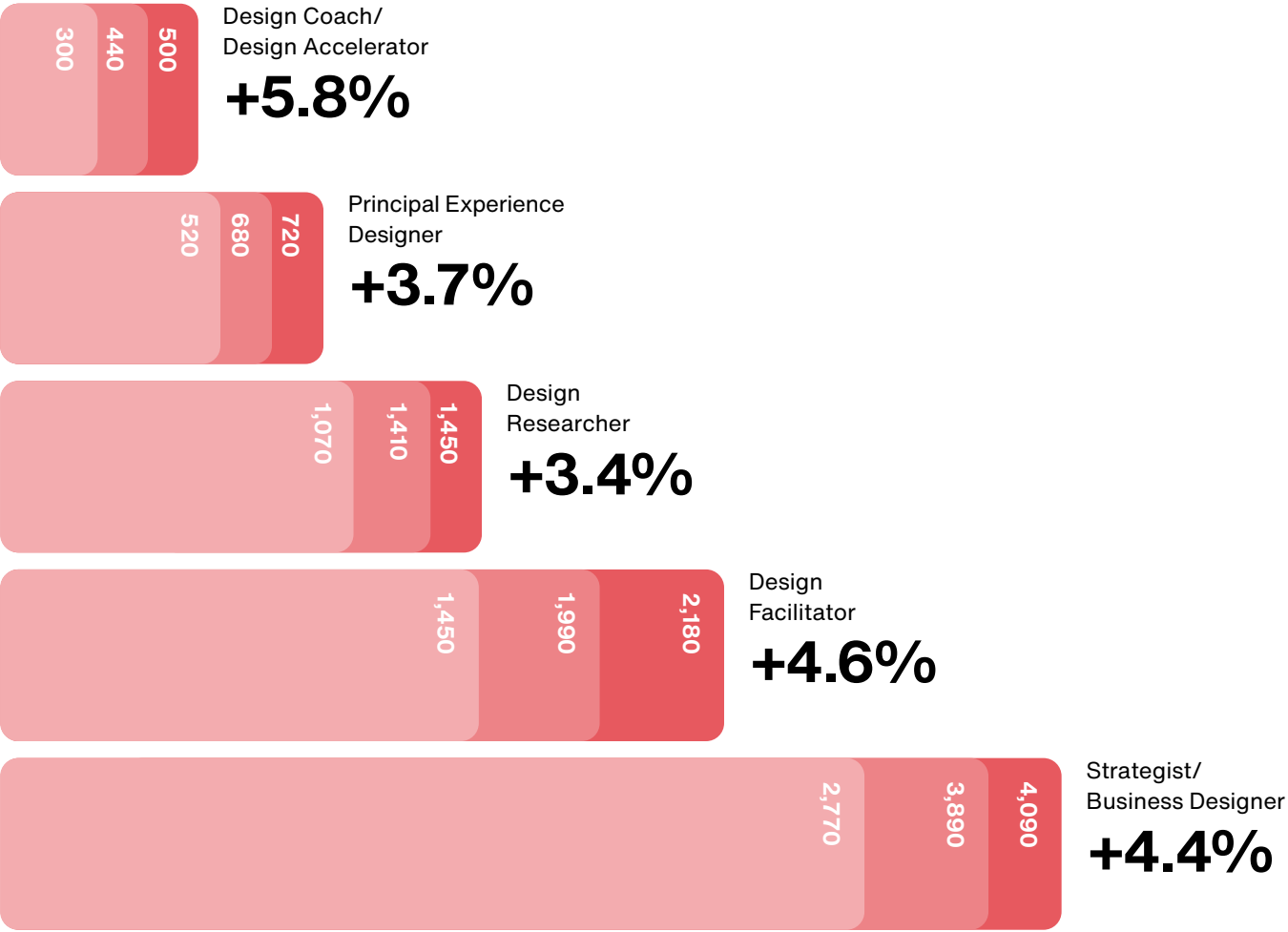
Distribution of Design Jobs in 2021



- Jobs in the Horizontals, including advanced manufacturing & trade, modern services, lifestyle, and healthcare.
- Jobs in the design subsector, including:
 - Place Making (Architectural Services, Exhibition Stand Design, Interior Design, Landscape Design)
 - Image Making (Advertising, Art and Graphic Design)
 - Object Making (Fashion and Accessories Design, Furniture Design, Industrial & Product Design)
 - Experience Making (Circular Design, Design Research, Design Strategy, Interaction Design, Service & Business Design, UI/UX Design)

³ Experience Making firms do not have a unique SSIC code and tend to exist as a subset of other Verticals. The proportion of Experience Making firms is estimated via a contribution approach (i.e. as a percentage of Place, Object and Image Making firms that classify themselves as Experience Makers). This is taken from NDIMS 2021/2022 Study.

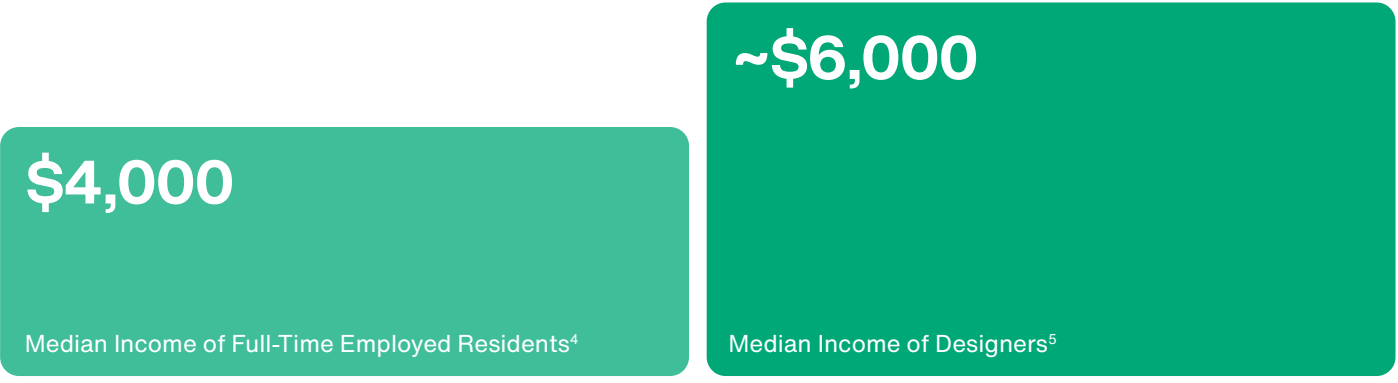
Job Roles in Demand



The fastest growing design job roles are defined as those with the highest Cumulative Average Growth Rate (CAGR). Between 2021 to 2030, the fastest growing design roles are related to change catalysts and innovation functions: people who could anticipate, facilitate and enable positive change within their organisations using design.

● Year 2021 ● Year 2025 ● Year 2030

Hiring Outlook



Designers earn ~50% more than the median of full-time employed residents.
The median gross monthly income of a designer in Singapore is ~\$6,000.

⁴ Ministry of Manpower, Labour Force in Singapore Report (2021). The figure excludes employer's CPF contributions.
⁵ NDIMS 2021/2022 Compensation Study.

NEW TSCS	DESCRIPTION
Carbon Markets and Decarbonisation Strategies Management*	Lead organisation’s strategy and policies in response to current and projected carbon policy, market developments and decarbonisation strategies, and provide support for the organisation and clients in their efforts to decarbonise and become net-zero.
Environment and Social Governance*	Understand the latest industry and/or client standards regarding Environment and Social Governance (ESG) and undertake ESG research activities.
Sustainable Landscape Design*	Incorporate considerations for sustainability, safety and maintainability in the design of landscapes.

As part of the update, we have identified a number of key skills that are common across the entire design sector. These Essential TSCs are expected of all design job roles, regardless of function and career track. The seven essential TSCs form a foundation on which designers can offer their distinctive value proposition.

ESSENTIAL TSCS	DESCRIPTION
Conceptual Thinking	Analyse and synthesise information by identifying key issues, perceiving unseen patterns and trends and deducing connections between issues to develop relevant ideas and solution.
Critical Thinking	Examine, manage and connect issues and ideas from multiple perspectives to identify reasoning in a variety of fields with differing assumptions, contents and methods.
Cultural Sensitivity for Design	Develop an appreciation and thorough understanding of intended target audiences’ cultures to reflect consideration to cultural sensitivities in design.
Design Thinking Practice	Manage design thinking methodologies and processes to solve specific challenges for the organisation, and guide stakeholders through the phases of inspiration, empathy, ideation and implementation.
Empathetic Design	Apply and drive empathetic-centred design thinking to better understand users’ feelings and perceptions towards products and services, as well as the emotional tone of creative design work.
Facilitation	Facilitate workshops with the intent of guiding, mentoring and leading participants to move through the process of learning and planning.
Imagination and Exploration	Utilise imagination and design exploration techniques across multiple disciplines to envision better outcomes and develop possible and relevant solutions.

* Adopted from other Skills Frameworks

New Job Roles
Three new job roles are defined in the updated SFwD, reflecting the maturity of emerging practice areas. In total, the refreshed SFwD comprises twenty eight job roles across seniority levels and career tracks.

NEW JOB ROLES	REMARKS
Service Designer/ Experience Designer	As demand for service and experience design has grown, supporting roles have emerged to complement lead and principal designers in these fields across projects and organisations. Today, Institutes of Higher Education offer dedicated programmes that equip graduates with the skills and competencies required to perform effectively in service and experience design roles.
Lead Creative Technologist	The rapid adoption of emerging technologies across the design domain has increased demand for Creative Technologists who can bridge design and technology. As organisations scale digital, data-driven and AI-enabled solutions, senior Creative Technologist roles are needed to provide strategic direction and technical leadership.
Principal Creative Technologist	The introduction of Lead and Principal Creative Technologist roles reflects the growing maturity of this discipline and establishes a clear progression pathway for Creative Technologists to advance into senior and leadership positions.

Design Career Track

Business & Management

Roles within the design function that employ design principles and practices or propagate key design principles to help achieve organisational or business objectives

Design Production

Focus on the production stage of design output, ensuring design integrity is kept while managing production efficiency and economy, working closely with related functions including engineering to translate and/or scale prototype development into higher fidelity or approved products

Design Project Management

Responsible for the resource management in the design development process and the integrated utilisation towards high quality design output

Design Product Management

Manage the planning, development and delivery of the design output, to ensure successful implementation of the design solution in the marketplace

Transformation Design

Facilitate the transformation of organisational culture and capability through the mastery of design thinking and practices during both internal and external (client-facing) processes/engagements, within the design team and/or integrating design team processes with broader functional teams within a business

Design

Roles that focus on design craft mastery and propagation

Design Craft

Develop design and creative solutions across different sub-sectors (e.g. architecture, advertising, product design, etc.) with an ever-expanding suite of technologically-infused design techniques and craft fundamentals

Design Communication

Focus on the crafting of creative and innovative communication materials across media and channels for different audiences, with an ever-expanding suite of technologically-infused design techniques and craft fundamentals

Innovation & Insight

Roles that contribute at a strategic level, from the intersection of business, technology and design perspectives

Design Research

Analyse and synthesise data from users, community and culture to inform the design creation process and elevate the value proposition of the design solution in addressing deep-seated needs and problem statements, through a blend of qualitative and quantitative insights

Service Design/Experience Design

Design products, services and processes for systemic, sophisticated engagement with users, to create culturally-relevant solutions, with a focus on the quality of user experience across all touch points or holistically across otherwise independent products

Strategy/Business Design

Apply the principles and practices of design and innovation to help organisations strategise, innovate business models, as well as create new value and new forms of competitive advantage holistically across impact areas for people, planet, and profit

Technology

Roles that integrate emerging technologies in exploring new design possibilities

Creative Technology

Experiment with and adopt an ever-expanding variety of emerging technologies in order to explore their value in enhancing the design process or design output

Design Production

Design Project Management

Design Product Management

Transformation Design

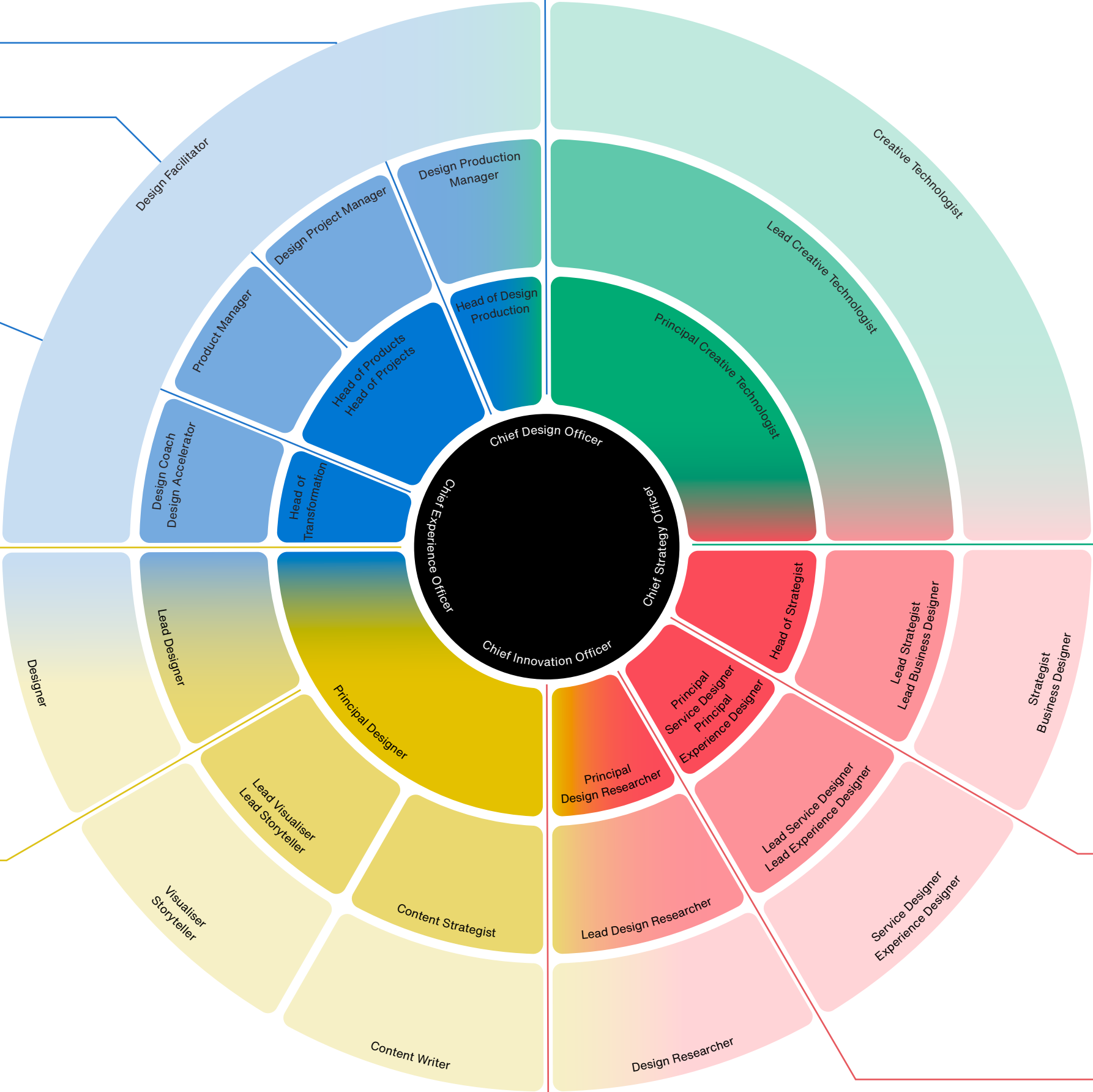
Design Craft

Design Communication

Career Map

- Business & Management
- Design

The circular Career Map depicts the fluidity of how designers can move towards and across various tracks by attaining the skills and competencies within each career track.



- Innovation & Insight
- Technology

Design Fac

CRITICAL CORE SKILLS

PROFICIENCY LEVEL

Collaboration	● ● ●
Communication	● ● ○
Creative Thinking	● ● ○
Problem Solving	● ● ○
Sense Making	● ● ●

BUSINESS & MANAGEMENT

DESIGN

Business Negotiation	● ● ● ○ ○ ○	Data and Information Visualisation	● ● ● ○ ○ ○
Business Presentation Delivery	● ● ● ○ ○ ○	Design Sustainability and Ethics Management	● ● ● ○ ○ ○
Change Management	● ● ● ○ ○ ○	Digital and Physical Prototyping	● ● ○ ○ ○ ○
Creative Entrepreneurship	● ● ● ○ ○ ○	Narrative Design	● ● ● ○ ○ ○
Stakeholder Management	● ● ● ○ ○ ○		

ESSENTIAL DESIGN TECHNICAL SKILLS AND COMPETENCIES

Conceptual Thinking	● ● ● ○ ○ ○
Critical Thinking	● ● ● ● ○ ○
Cultural Sensitivity for Design	♥ ● ● ● ○ ○ ○
Design Thinking Practice	● ● ● ● ○ ○
Empathetic Design	♥ ● ● ● ○ ○ ○
Facilitation	● ● ● ● ○ ○
Imagination and Exploration	● ● ● ○ ○ ○

INNOVATION & INSIGHT

TECHNOLOGY

Business Model Innovation	● ● ● ○ ○ ○	Emerging Technology Synthesis	● ● ● ○ ○ ○ ☆
Qualitative Research	● ● ● ○ ○ ○		
Systems Thinking	● ● ● ○ ○ ○		

CRITICAL CORE SKILLS

PROFICIENCY LEVEL

Building Inclusivity	● ● ○
Collaboration	● ● ○
Communication	● ● ●
Decision Making	● ● ●

BUSINESS & MANAGEMENT

DESIGN

Business Negotiation	● ● ● ○ ○ ○	Aesthetic and Design Sensibility	● ● ● ○ ○ ○
Business Risk Management	● ● ● ● ○ ○	Design Creation and Development	● ● ● ● ○ ○
Carbon Markets and Decarbonisation Strategies Management	● ● ● ○ ○ ○ * 🌿	Design Standards and Specification	● ● ● ● ○ ○
Contract Development and Management	● ● ● ● ○ ○	Design Sustainability and Ethics Management	● ● ● ● ○ ○
Project Management	● ● ● ● ○ ○	Digital and Physical Prototyping	● ● ● ● ○ ○
Stakeholder Management	● ● ● ● ○ ○	Form Giving	● ● ● ○ ○ ○
		Technical Drawing	● ● ● ○ ○ ○

ESSENTIAL DESIGN TECHNICAL SKILLS AND COMPETENCIES

Conceptual Thinking	● ● ● ○ ○ ○
Cultural Sensitivity for Design	♥ ● ● ● ○ ○ ○
Design Thinking Practice	● ● ● ● ○ ○
Empathetic Design	♥ ● ● ● ○ ○ ○
Facilitation	● ● ● ○ ○ ○
Imagination and Exploration	● ● ● ○ ○ ○

INNOVATION & INSIGHT

TECHNOLOGY

Data Analysis and Interpretation	● ● ● ○ ○ ○	Big Data Analytics	● ● ● ○ ○ ○ * ⚙️
Systems Thinking	● ● ● ○ ○ ○	Emerging Technology Synthesis	● ● ● ● ○ ○ ⚙️
User Testing and Usability Testing	● ● ● ● ○ ○	Material Studies and Production Processes	● ● ● ● ○ ○ ⚙️
		Product and Production Engineering	● ● ● ● ○ ○ ⚙️

CRITICAL CORE SKILLS

PROFICIENCY LEVEL

Communication	● ● ●
Customer Orientation	● ● ○
Decision Making	● ● ○
Problem Solving	● ● ○

BUSINESS & MANAGEMENT

DESIGN

Brand Management	● ● ● ● ○ ○	Aesthetic and Design Sensibility	● ● ● ○ ○ ○
Business Negotiation	● ● ● ○ ○ ○	Design Sustainability and Ethics Management	● ● ● ● ○ ○
Business Presentation Delivery	● ● ● ○ ○ ○		
Business Risk Management	● ● ● ● ○ ○		
Change Management	● ● ● ● ○ ○		
Contract Development and Management	● ● ● ● ○ ○		
Product Management	● ● ● ● ○ ○		
Project Management	● ● ● ● ○ ○		
Stakeholder Management	● ● ● ● ○ ○		

ESSENTIAL DESIGN TECHNICAL SKILLS AND COMPETENCIES

Conceptual Thinking	● ● ● ○ ○ ○
Critical Thinking	● ● ● ● ○ ○
Cultural Sensitivity for Design	♥ ● ● ● ● ○ ○
Design Thinking Practice	● ● ● ● ○ ○
Empathetic Design	♥ ● ● ● ● ○ ○
Facilitation	● ● ● ○ ○ ○
Imagination and Exploration	● ● ● ● ○ ○

INNOVATION & INSIGHT

TECHNOLOGY

Data Analysis and Interpretation	● ● ● ● ○ ○	Emerging Technology Synthesis	● ● ● ● ○ ○ ☆
Systems Thinking	● ● ● ● ○ ○		
User Testing and Usability Testing	● ● ● ● ○ ○		

CRITICAL CORE SKILLS

PROFICIENCY LEVEL

Collaboration	● ● ○
Communication	● ● ●
Problem Solving	● ● ●
Sense Making	● ● ●

BUSINESS & MANAGEMENT

DESIGN

Brand Management	● ● ● ● ● ○
Business Negotiation	● ● ● ○ ○ ○
Business Presentation Delivery	● ● ● ○ ○ ○
Intellectual Property Management	● ● ● ● ○ ○
Product Management	● ● ● ● ● ○
Project Management	● ● ● ● ○ ○
Proposal Writing Development	● ● ● ● ○ ○
Stakeholder Management	● ● ● ● ○ ○

Aesthetic and Design Sensibility	● ● ● ● ○ ○
Design Standards and Specification	● ● ● ● ○ ○
Design Sustainability and Ethics Management	● ● ● ● ○ ○

ESSENTIAL DESIGN TECHNICAL SKILLS AND COMPETENCIES

Conceptual Thinking	● ● ● ○ ○ ○
Critical Thinking	● ● ● ● ○ ○
Cultural Sensitivity for Design	♥ ● ● ● ○ ○ ○
Design Thinking Practice	● ● ● ● ○ ○
Empathetic Design	♥ ● ● ● ● ○ ○
Facilitation	● ● ● ○ ○ ○
Imagination and Exploration	● ● ● ● ○ ○

INNOVATION & INSIGHT

TECHNOLOGY

Behavioural Economics in Design	● ● ● ● ○ ○
Business Model Innovation	● ● ● ● ○ ○
Data Analysis and Interpretation	● ● ● ● ○ ○
Market Research	● ● ● ● ○ ○
Scenario and Strategic Planning	● ● ● ● ○ ○
Systems Thinking	● ● ● ○ ○ ○
Trend Forecasting	● ● ● ● ○ ○
User Testing and Usability Testing	● ● ● ● ○ ○

Emerging Technology Synthesis	● ● ● ● ○ ○ ☆
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CRITICAL CORE SKILLS

PROFICIENCY LEVEL

Collaboration	● ● ●
Communication	● ● ●
Problem Solving	● ● ●
Sense Making	● ● ●
Decision Making	● ● ○

BUSINESS & MANAGEMENT

DESIGN

Business Negotiation	● ● ● ● ○ ○
Business Presentation Deliver	● ● ● ● ○ ○
Change Management	● ● ● ● ○ ○
Creative Entrepreneurship	● ● ● ● ● ○
Project Management	● ● ● ● ○ ○
Stakeholder Management	● ● ● ● ○ ○

Data and Information Visualisation	● ● ● ● ○ ○
Design Creation and Development	● ● ● ● ○ ○
Design Sustainability and Ethics Management	● ● ● ● ○ ○
Digital and Physical Prototyping	● ● ● ○ ○ ○
Narrative Design	● ● ● ● ○ ○

ESSENTIAL DESIGN TECHNICAL SKILLS AND COMPETENCIES

Conceptual Thinking	● ● ● ● ○ ○
Critical Thinking	● ● ● ● ○ ○
Cultural Sensitivity for Design	♥ ● ● ● ○ ○
Design Thinking Practice	● ● ● ● ● ○
Empathetic Design	♥ ● ● ● ● ○
Facilitation	● ● ● ● ● ○
Imagination and Exploration	● ● ● ● ○ ○

INNOVATION & INSIGHT

TECHNOLOGY

Business Model Innovation	● ● ● ● ○ ○
Qualitative Research	● ● ● ● ○ ○
Scenario and Strategic Planning	● ● ● ● ○ ○
Systems Thinking	● ● ● ● ○ ○
User Experience Design	● ● ● ● ○ ○
User Testing and Usability Testing	● ● ● ● ○ ○

Emerging Technology Synthesis	● ● ● ● ○ ○ ☆
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CRITICAL CORE SKILLS

PROFICIENCY LEVEL

Creative Thinking	● ● ●
Problem Solving	● ● ●
Sense Making	● ● ●
Decision Making	● ● ●

BUSINESS & MANAGEMENT

DESIGN

Business Negotiation	● ● ● ● ● ○	Data and Information Visualisation	● ● ● ● ● ○
Business Presentation Delivery	● ● ● ● ● ○	Design Creation and Development	● ● ● ● ● ○
Change Management	● ● ● ● ● ○	Design Sustainability and Ethics Management	● ● ● ● ● ○
Creative Entrepreneurship	● ● ● ● ● ●		
Project Management	● ● ● ● ● ○		
Proposal Writing	● ● ● ● ● ○		

ESSENTIAL DESIGN TECHNICAL SKILLS AND COMPETENCIES

Conceptual Thinking	● ● ● ● ● ○
Critical Thinking	● ● ● ● ● ○
Cultural Sensitivity for Design	♥ ● ● ● ● ○ ○
Design Thinking Practice	● ● ● ● ● ●
Empathetic Design	♥ ● ● ● ● ● ○
Facilitation	● ● ● ● ● ○
Imagination and Exploration	● ● ● ● ● ○

INNOVATION & INSIGHT

TECHNOLOGY

Business Model Innovation	● ● ● ● ● ○	Emerging Technology Synthesis	● ● ● ● ● ○ ☆
Qualitative Research	● ● ● ● ● ○		
Scenario and Strategic Planning	● ● ● ● ● ○		
Systems Thinking	● ● ● ● ● ○		
Trend Forecasting	● ● ● ● ● ○		
User Experience Design	● ● ● ● ● ○		
User Testing and Usability Testing	● ● ● ● ● ○		

