

NATIONAL DESIGN INDUSTRY & MANPOWER STUDY

2021/2022
Summary Report

Introduction

Design has the potential to shape the Singapore landscape on every front - from designing cutting-edge user interfaces to engaging in user-centric research to inform public policy.

Design is recognised as a strategic tool for addressing urgent and complex challenges of the near future. Therefore, it is imperative to continuously develop talent in the design workforce.

The National Design Industry and Manpower Study (NDIMS) was first launched in 2017 to understand and establish manpower and skills gaps that exist in the industry.

This is the third edition of NDIMS. Its expanded scope includes future opportunities for the design workforce, and a sizing of the design freelancing landscape.

Insights from this study will be used to formulate appropriate strategies and recommendations to develop policies, programmes, design education, and the larger design ecosystem.



DesignSingapore Council's (Dsg) vision is for Singapore to be an innovation-driven economy and a loveable city through design by 2025. As the national agency for design, our mission is to develop the design sector, help Singapore use design for innovation and growth, and make life better in this UNESCO Creative City of Design. Dsg is a subsidiary of the Singapore Economic Development Board.

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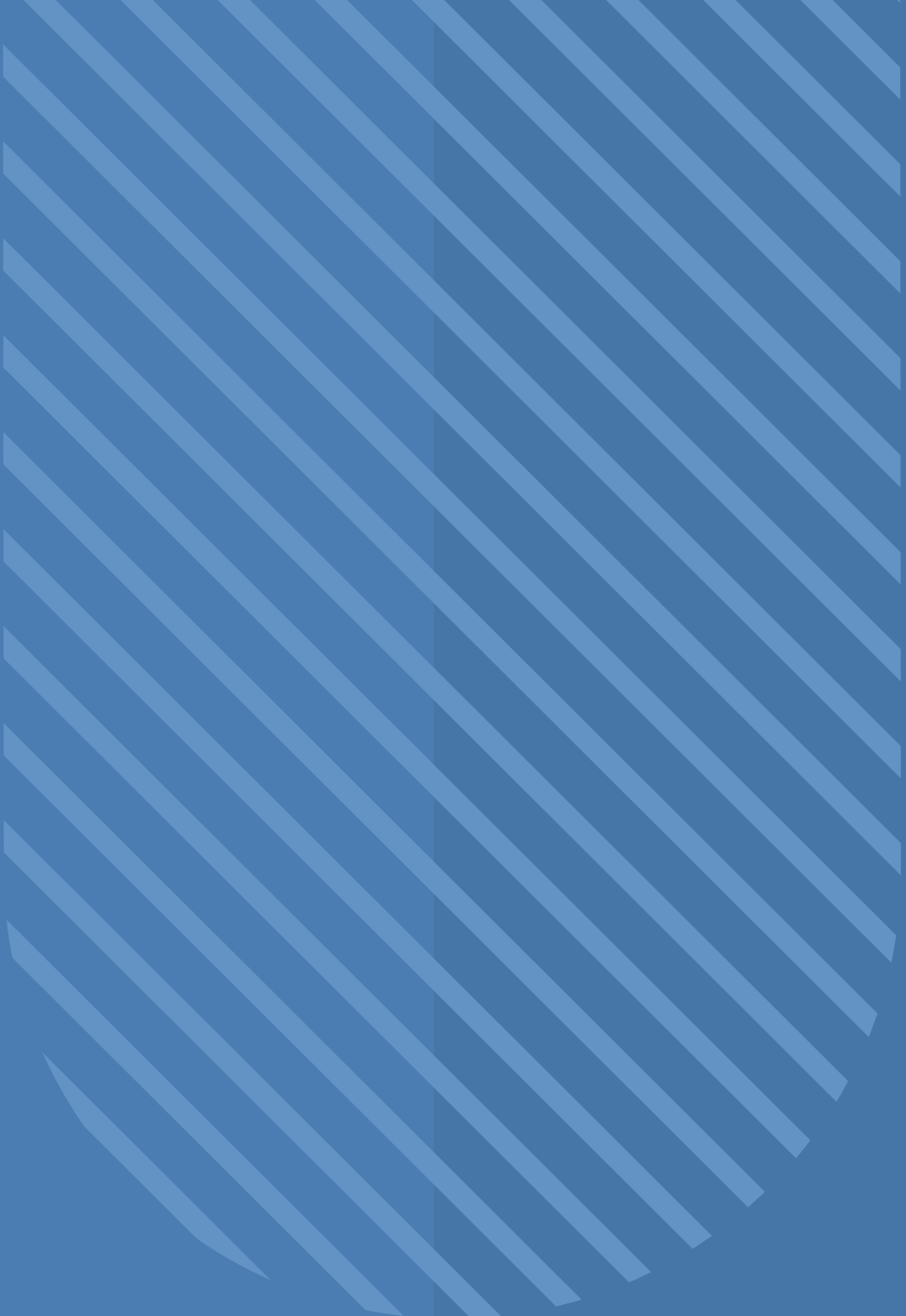
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01 State of Design Manpower

Key Findings

Methodology

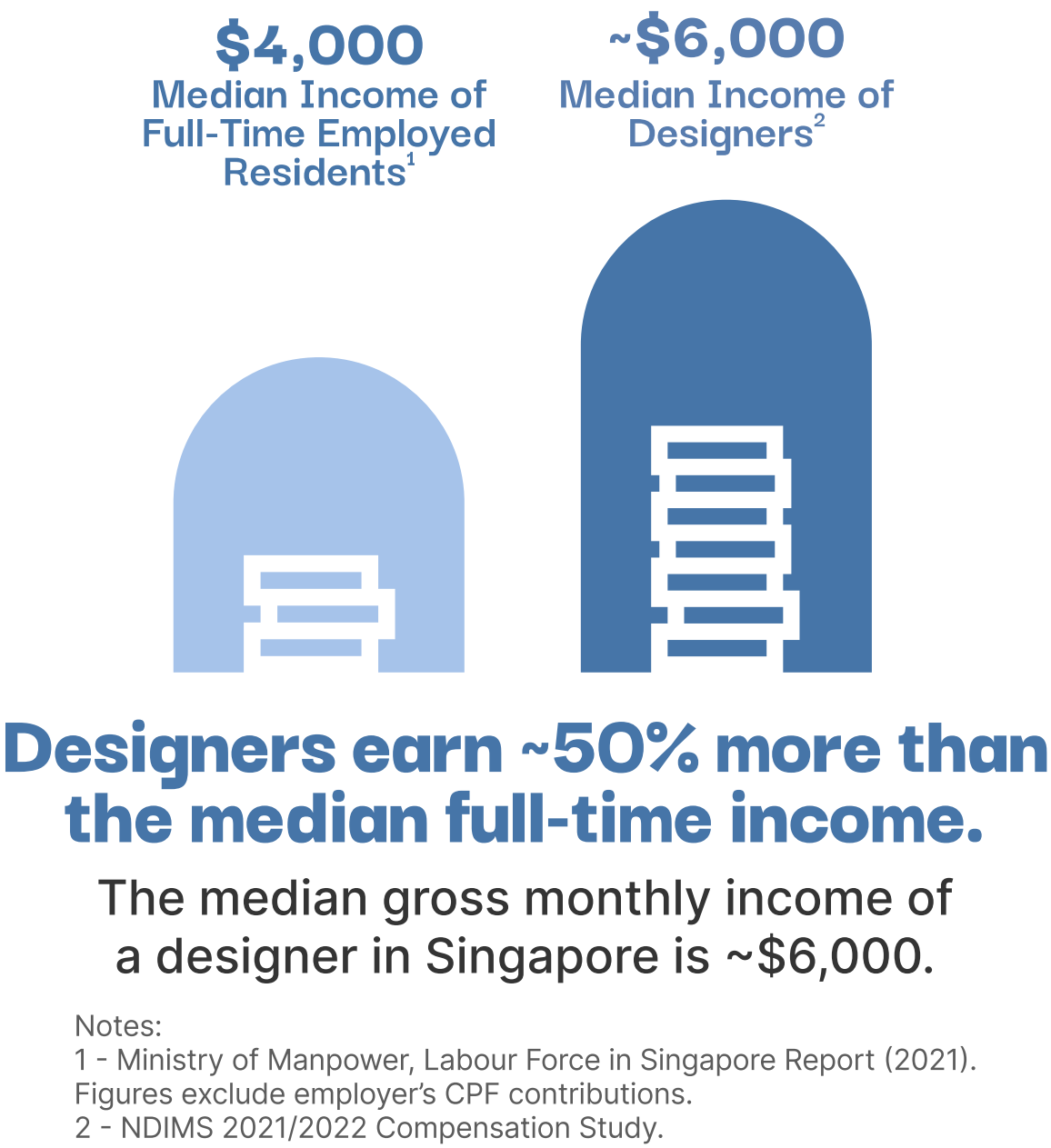
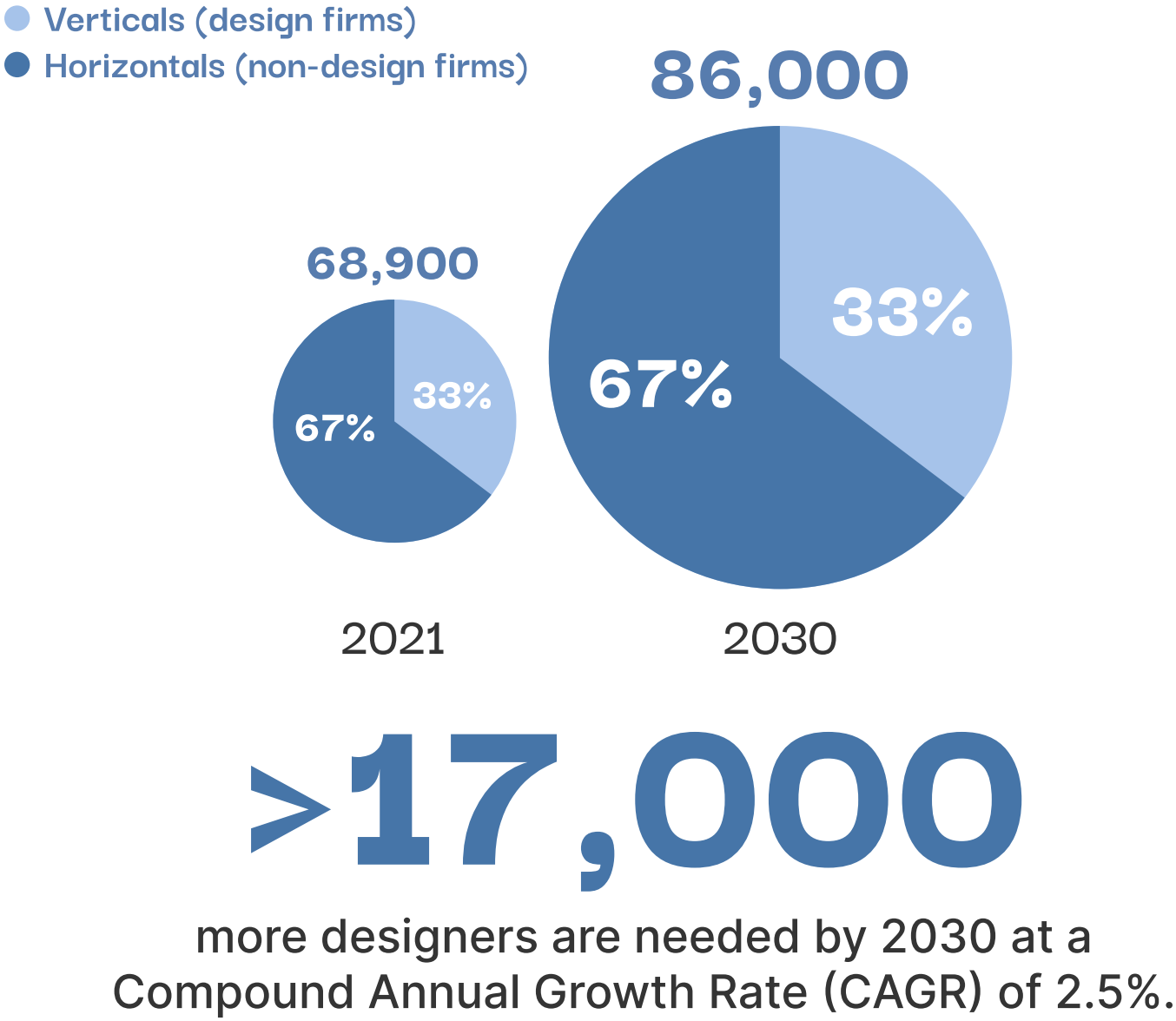
Design Workforce

Design Landscape

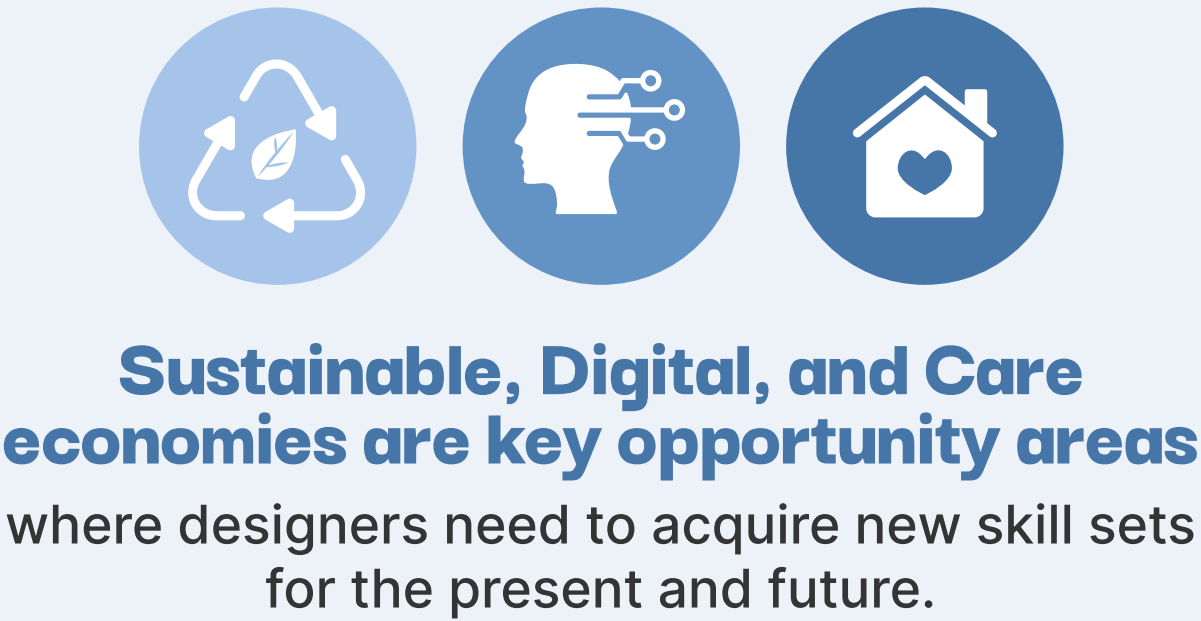
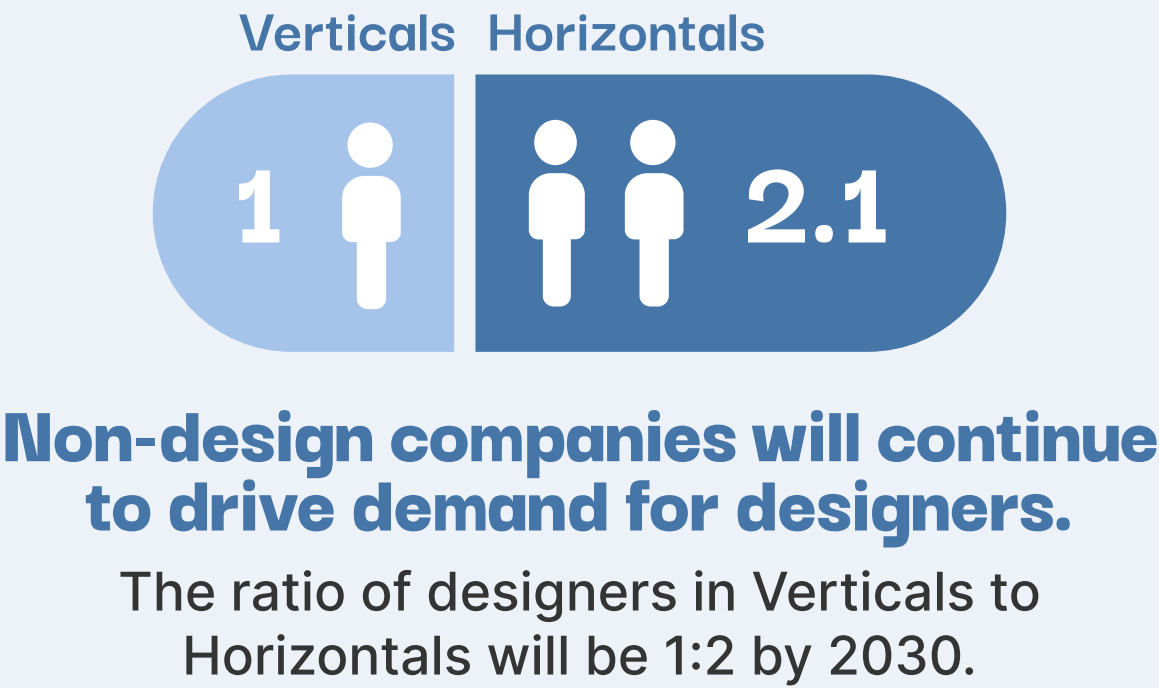
Design Hirers

Design Freelancers

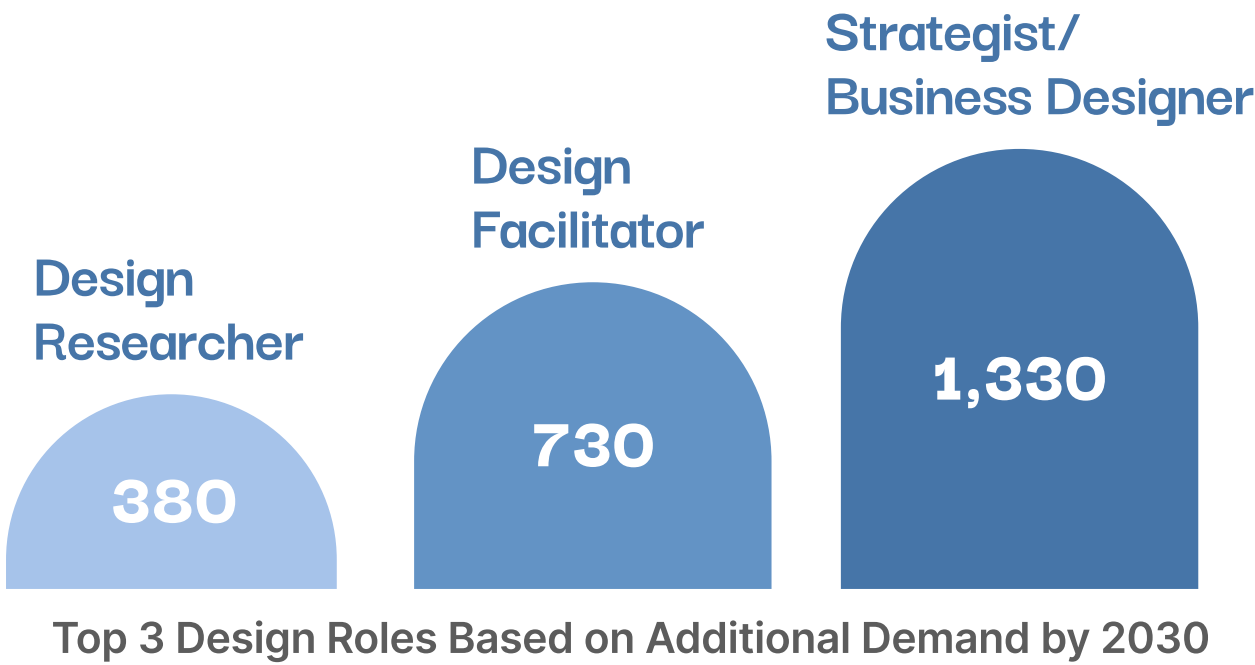
1.1 Key Findings



KEY TRENDS



EMERGING DEMAND IN DESIGN JOBS



Designers in business and innovation functions are in the highest demand.
Transdisciplinary capabilities will continue to be key hiring requirements.

TOP SKILLS IN DEMAND



1.2 Methodology

NDIMS is a comprehensive study that employs a range of methods and sources to derive insights. This includes a survey with enterprises, interviews with industry leaders from both design and non-design sectors, quantitative data from various government reports and publications, and secondary insights from local and international reports spanning the topics of design, manpower, and national strategies.

The study comprises three phases:

PHASE 1 | LANDSCAPE REVIEW

A broad scan of global and macro trends to understand implications on the design workforce. Discovery of companies’ existing challenges and areas for intervention.



15

Scoping Interviews



75+

Research Papers & Reports

PHASE 2 | ANALYSIS

Investigation of current manpower demand and supply requirements such as hiring outlook, key hiring industries, and skill requirements.



230+

Enterprise Survey Participants



350+

Compensation Study Participants



30+

Freelancer Survey Participants

PHASE 3 | VALIDATION

Validation of manpower outlook and future expectations of the workforce.



60+

Panellists
Across 12 Focus Group Discussions (FGDs) comprising educators, opinion leaders, policymakers, design hirers, and freelancers

1.3 Design Workforce

Design Archetypes

The design workforce spans a wide range of disciplines and roles, and can be classified into four archetypes.

CREATORS

Designers who can integrate knowledge and methods from different disciplines and operate in non-design contexts.



Designpreneur

A design business (or product) owner with strong commercial acumen and creative sensibilities.



Design Specialist

A design practitioner with deep creative capabilities in one or more design disciplines.

ENABLERS

Designers and non-designers who are equipped with design-related skills to enable innovation in the workplace.



Design Multiplier

A non-design professional who advocates for design in their respective domains of work (e.g. sales, business management).



Design Integrator

A design practitioner capable of facilitating organisational innovation through design.

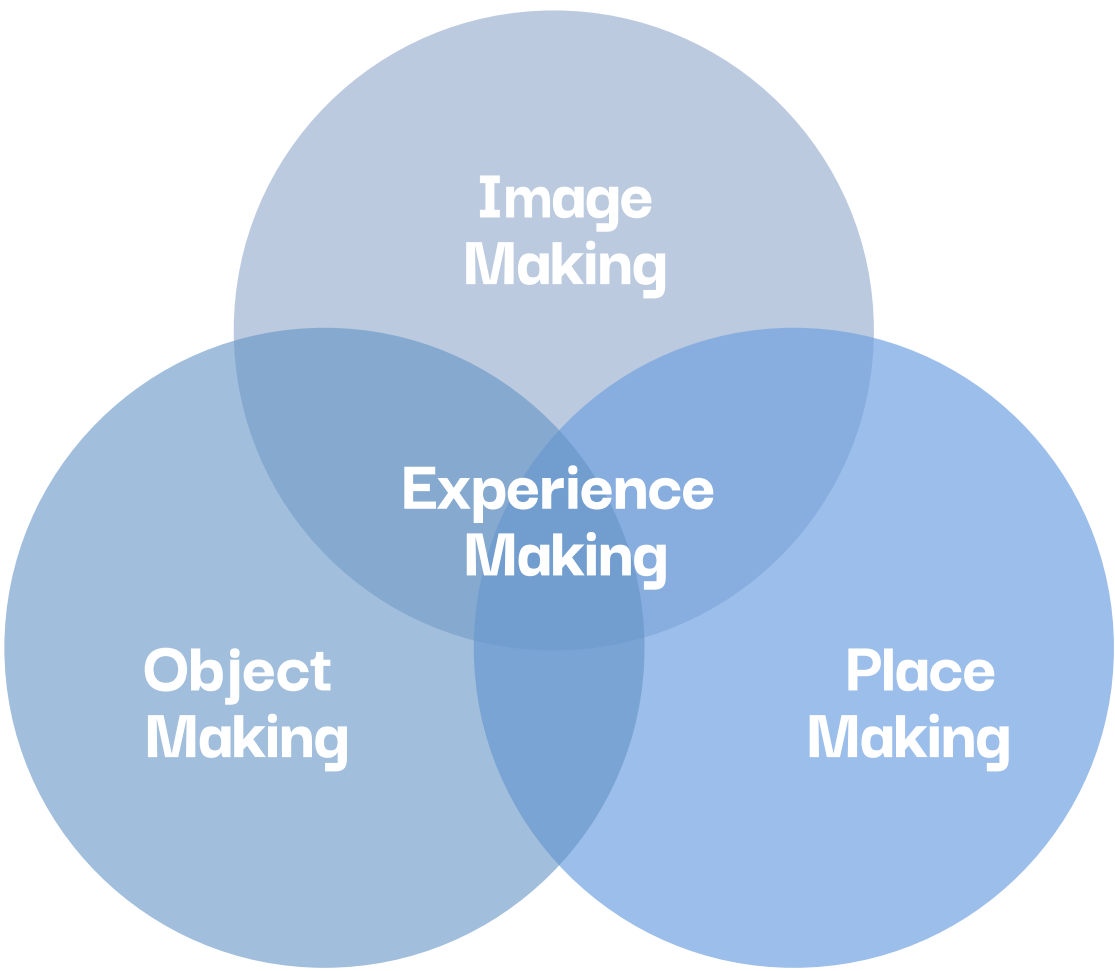
1.3 Design Workforce

Super-Sectors

Designers today are not confined to a single industry. They operate across the entire Singapore economy – within the design sector (‘Verticals’) and non-design sectors (‘Horizontal’).

VERTICALS

Verticals refer to companies that design products or services as their primary output. Verticals can be further broken down into four sub-sectors:



SUB-SECTOR	EXAMPLES OF DISCIPLINES
EXPERIENCE MAKING	<ul style="list-style-type: none">• Circular Design• Design Research• Design Strategy• Interaction Design• Service & Business Design• UI/UX Design
IMAGE MAKING	<ul style="list-style-type: none">• Advertising• Art and Graphic Design
OBJECT MAKING	<ul style="list-style-type: none">• Fashion and Accessories Design• Furniture Design• Industrial & Product Design
PLACE MAKING	<ul style="list-style-type: none">• Architectural Services• Exhibition Stand Design• Interior Design• Landscape Design

HORIZONTALS

Horizontals refer to non-design sectors, spanning a wide variety of industries in the economy. This study aligns the economic cluster definitions with those used by the Ministry of Trade and Industry’s (MTI) Future Economic Council (FEC).

SUB-SECTOR	EXAMPLES OF INDUSTRIES
ADVANCED MANUFACTURING & TRADE (AMT)	<ul style="list-style-type: none">• Aerospace• Energy & Chemicals• Electronics• Food Manufacturing• Logistics and Wholesale Trade• Marine & Offshore• Precision Engineering
CONNECTIVITY	<ul style="list-style-type: none">• Air Transport• Land Transport• Sea Transport
GOVERNMENT & PUBLIC ADMINISTRATION ³	<ul style="list-style-type: none">• Public Institutions• Statutory Boards
HUMAN HEALTH & POTENTIAL (HHP)	<ul style="list-style-type: none">• Education• Healthcare
LIFESTYLE	<ul style="list-style-type: none">• Food Services• Hotels• Retail
MODERN SERVICES	<ul style="list-style-type: none">• Financial Services• ICT & Media• Professional Services
RESOURCE & ENVIRONMENTAL SUSTAINABILITY (RES)	<ul style="list-style-type: none">• Environmental Services
URBAN SYSTEMS	<ul style="list-style-type: none">• Construction• Real Estate• Security

Notes:
3 - ‘Government & Public Administration’ is not considered an economic cluster, but input has been captured in the Enterprise Survey.

1.4 Design Landscape

As Singapore progresses towards an innovation-driven economy, the design workforce is expected to continue to grow. Based on data from the Singapore Department of Statistics, the design workforce is estimated to be 68,900 in 2021. This figure is projected to grow to 82,500 in 2025, and 86,000 by 2030.

From 2021 to 2030, the design sector is projected to grow by 25% with a CAGR of 2.5%.

As of 2021, 67% of the design workforce worked in Horizontals - for every designer hired in a Vertical firm, there are two designers hired in a Horizontal firm. This ratio is expected to remain stable.

Moreover, over the next decade, the increase in the number of designers required by Horizontals (+11,400) is twice the number required by Verticals (+5,700).

These signals show that demand for designers will be primarily driven by non-design sectors.

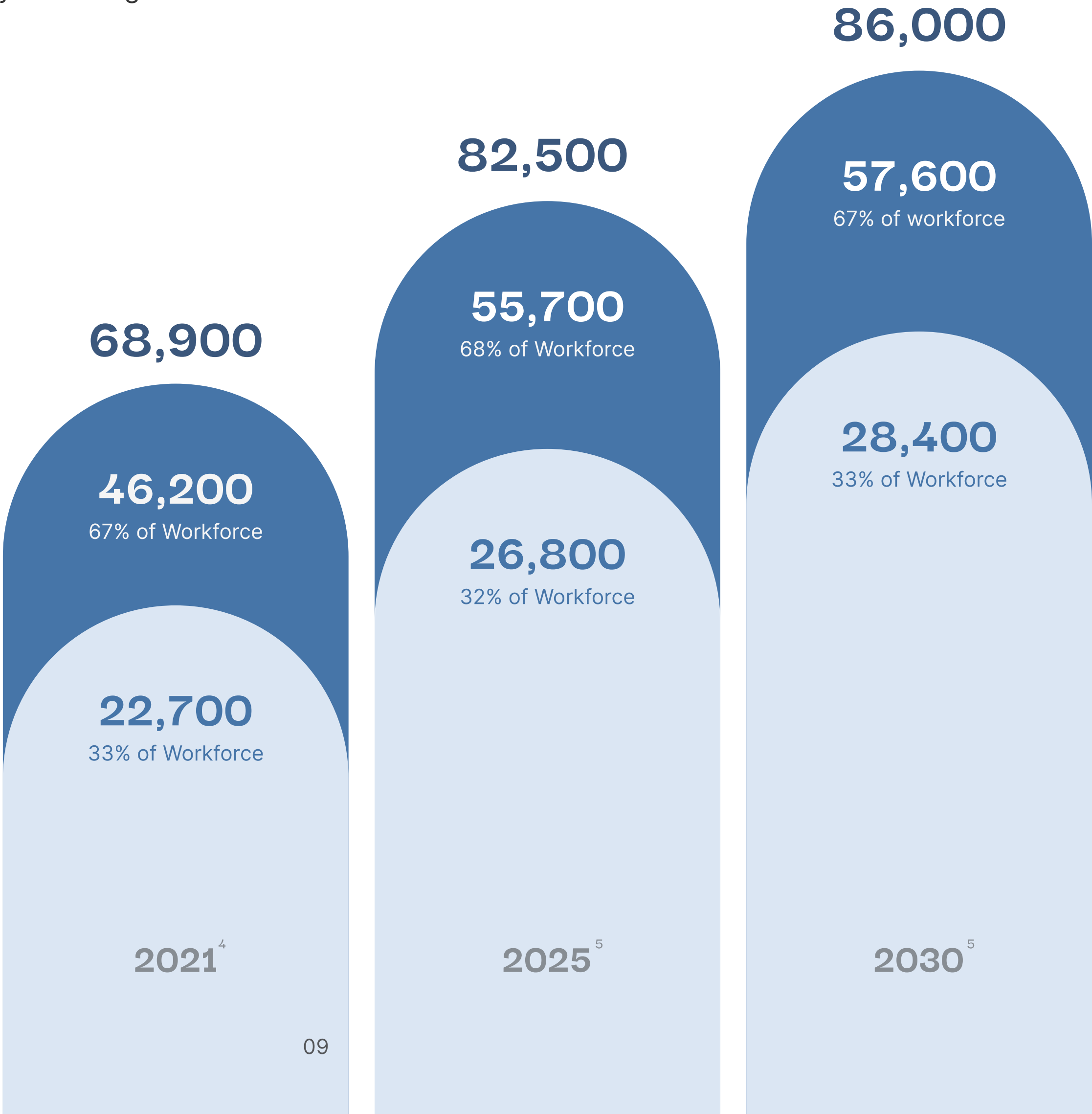


Fig 1: Projected Growth of the Design Workforce

- Vertical
- Horizontal

Notes:
4 - Estimates based on data from the Singapore Department of Statistics.
5 - Based on NDIMS 2021/2022 Analysis & Projections.

1.5 Design Hirers

Designers contribute to nearly every industry within the Singapore economy, ranging from financial institutions, to construction, to healthcare and advertising.

Figure 2 provides a breakdown of design employers by sub-sectors⁶.

The largest employers of designers today are:

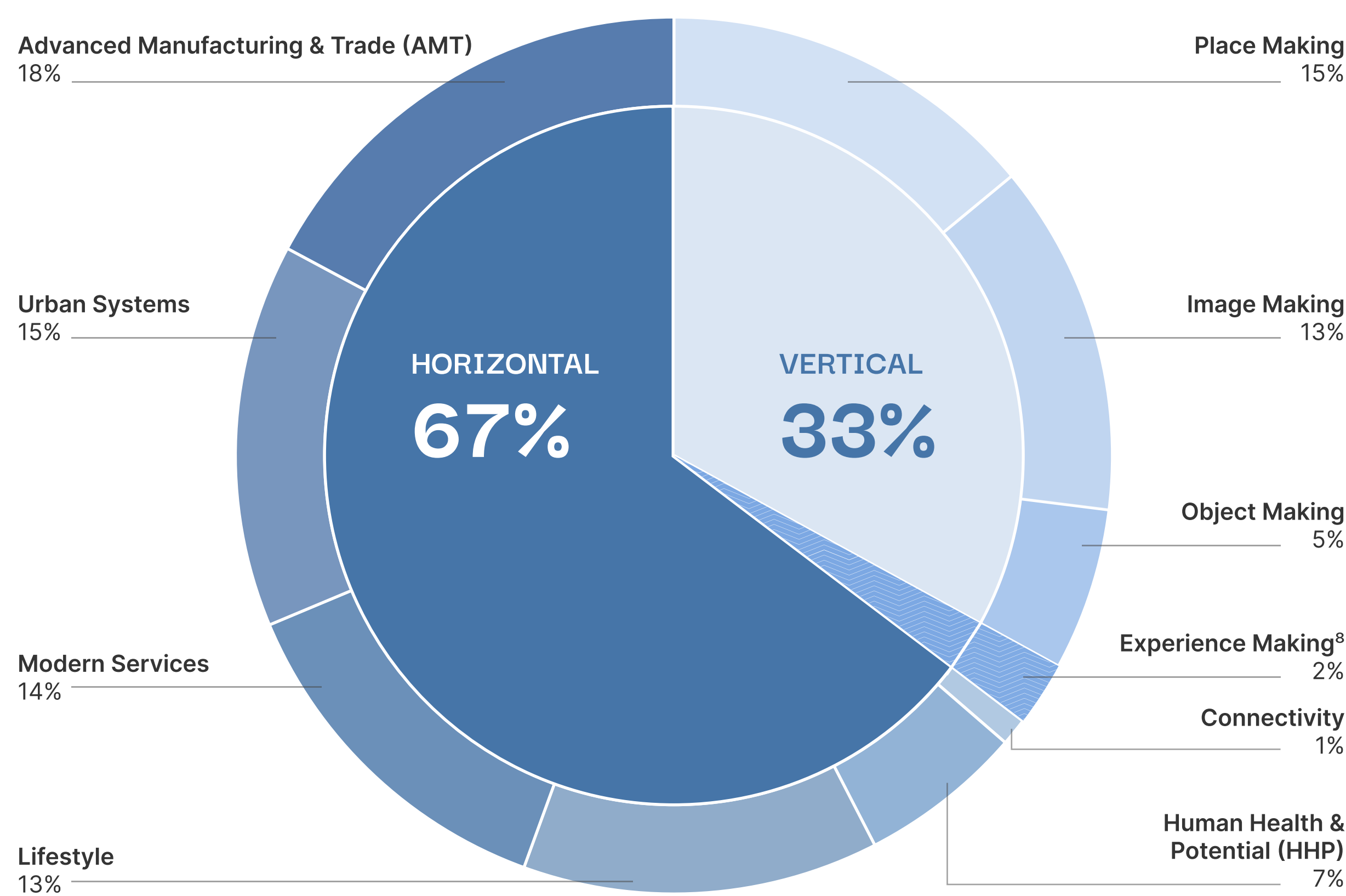
- Advanced Manufacturing and Trade (18%)
- Place Making (15%)
- Urban Systems (15%) and
- Modern Services (14%).

Furthermore, employers from both Horizontals and Verticals hire designers of different archetypes and for a variety of job roles.

This data shows that designers have versatile skills relevant to a broad spectrum of industries. Therefore, it is crucial for designers to grow beyond their primary craft and understand macro-trends in the larger context of businesses and industries in Singapore.

Job portals, Referrals, Recruitment Agencies are the top channels used to source for design talent⁷.

Fig 2: Composition of Design Hirers in 2021



Notes:
6 - Composition derived using employment data from national sources and NDIMS 2021/2022 Enterprise Survey.
7 - NDIMS 2021/2022 Enterprise Survey.
8 - 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).

1.6 Design Freelancers

This edition of NDIMS includes a study of the design freelancer population in Singapore.

The population of design freelancers stands at approximately 9,100. This comprises a mix of those who engage in freelancing formally and informally.

Half of this population (4,600) freelance formally⁹, meaning that design freelance work is their primary source of income.

Meanwhile, 26% of freelancers engage in freelancing gigs informally while holding full-time roles in the design workforce.

“COVID-19 has pushed up the demand and awareness of freelancers... especially because of increased demands in digital marketing.”

– Founder & CEO, Freelance Agency

Verticals rely more on design freelancers than Horizontals do. 69% of Vertical companies surveyed engage freelancers to supplement their workforce, while only 30% of Horizontal survey respondents do so.

Companies surveyed most commonly hire freelancers for Image Making (61%) services, followed by Experience Making (44%) services.

The demand for image-making freelancers grew notably during the COVID-19 pandemic as more businesses shifted online.

Fig 3: Breakdown of Design Freelancer Population

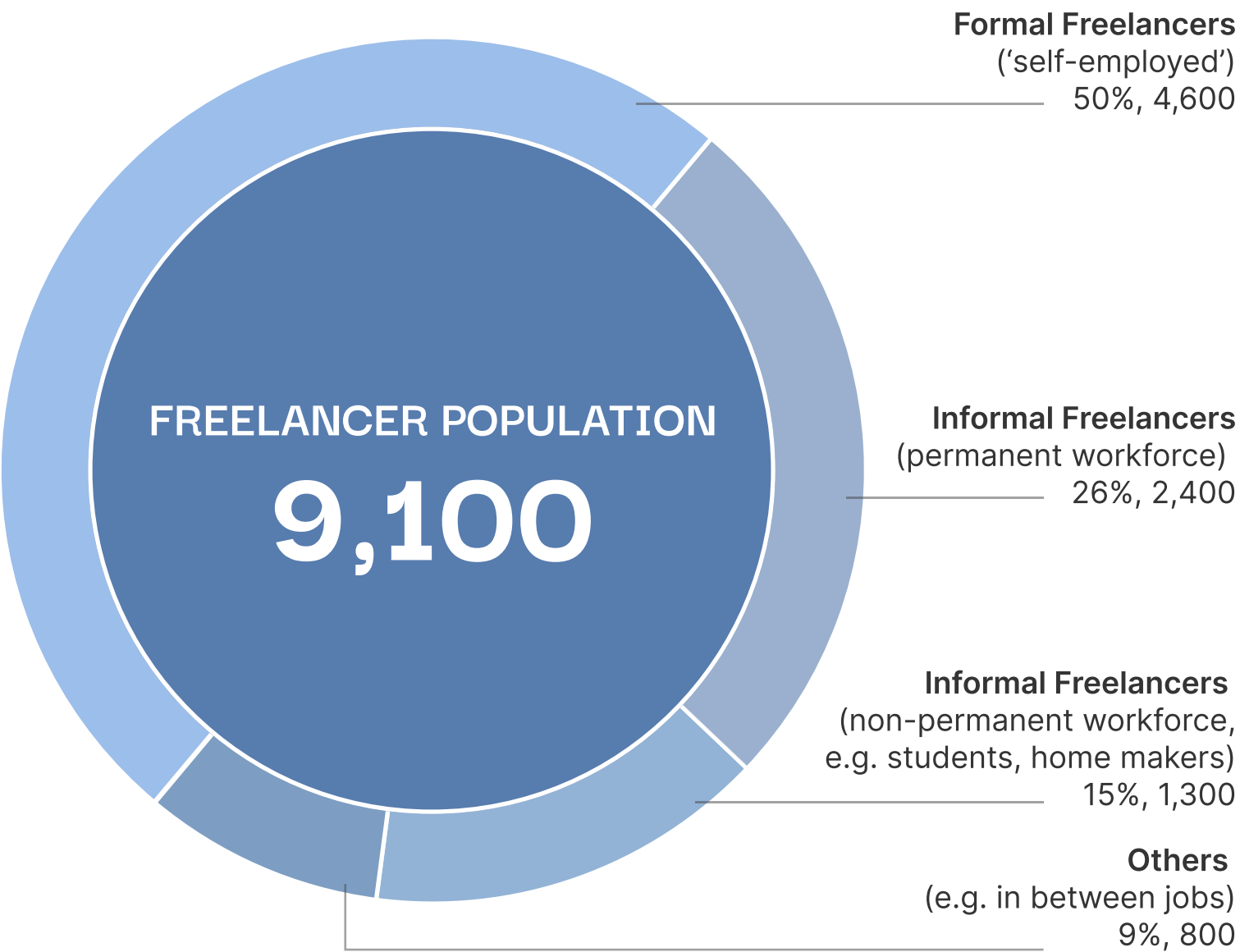
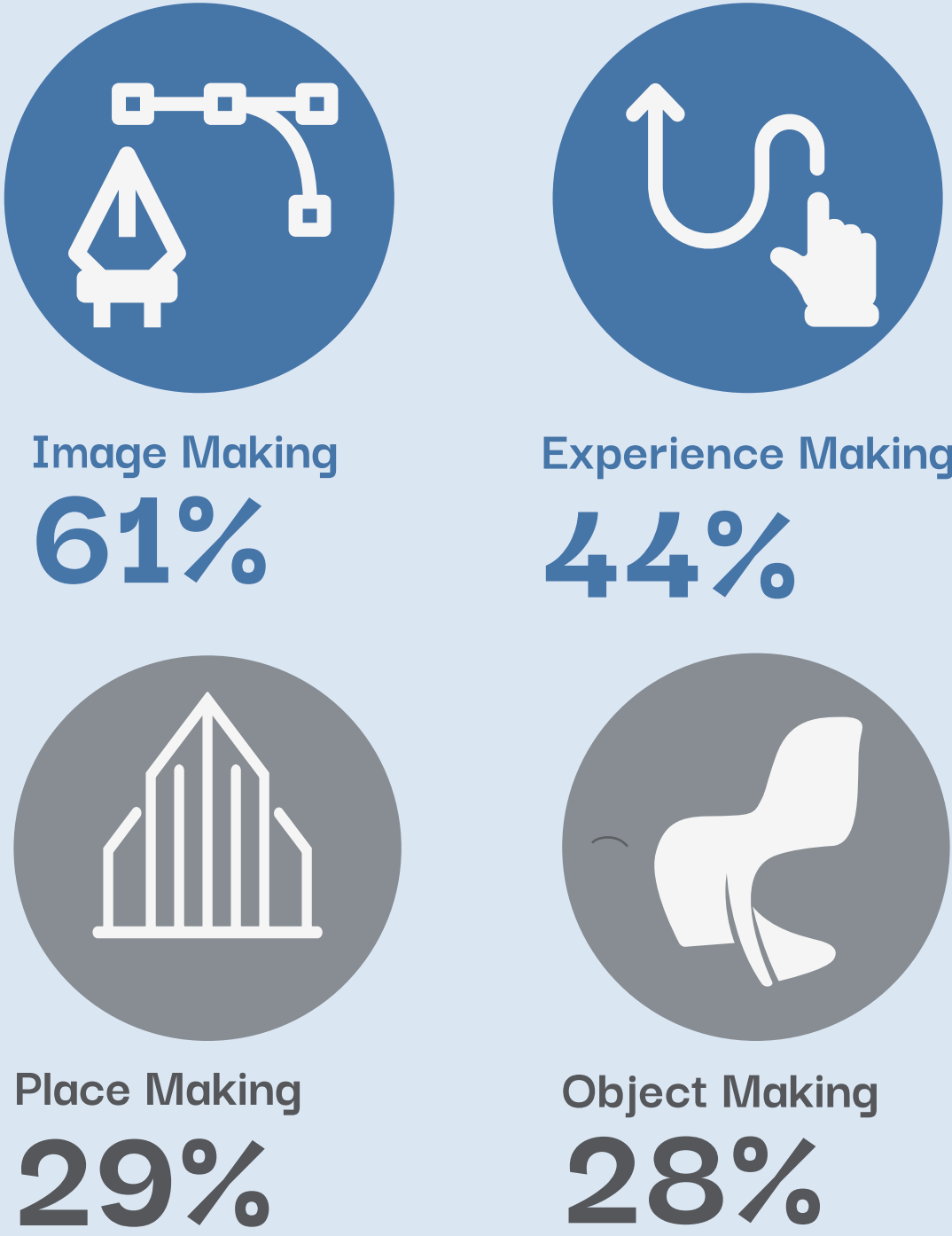


Fig 4: Design Services that Companies Hire Freelancers for, findings from NDIMS 2021/2022 Enterprise Survey.



Notes:
9 - Formal design freelancers are workers whose employment status is 'self-employed'. They typically spend more than 35 hours per week on freelancing activities.

1.6 Design Freelancers

Freelancing in design is often an informed decision. 45% of freelancers surveyed have at least five years of full-time working experience before transitioning to freelancing. To freelancers, building business networks and a trustworthy personal brand is critical to having a sustainable freelancing career.

If you want to be serious about freelancing, you have to be very good at marketing and a strong personal network if you want to survive.”

– Freelance Place Maker

When asked about the primary channels for securing freelance projects, 97% of the freelancers surveyed relied on referrals, while only 27% of freelancers relied on portfolio platforms such as Behance.

“My network was built way before I started freelancing. I was in the research field for more than 10 years. Maintaining a good track record of work and good relations helped me to get hired and recommended to others.”

– Freelance Experience Maker

Formal freelancers are primarily motivated by personal autonomy rather than necessity. On the other hand, companies’ top reasons for hiring freelancers include tapping into niche design services to augment existing design capabilities.

Within the next two years, 68% of freelancers expect their income to increase, as the normalisation of remote working opens more doors for freelancing opportunities.

Design freelancers also acknowledge the importance of upskilling, primarily in business-related skills, to keep their businesses viable.

This reinforces the notion that designers are now focusing on developing business acumen rather than solely improving their craft.

Primary Motivations for Freelancing¹⁰

Autonomy To Choose Rewarding And Diverse Work	71%
Attain Work-Life Balance/ Flexibility	62%
Expand Personal Portfolio	53%

Reasons for Hiring Freelancers¹¹

Access To Specialised Talent	21%
Greater Flexibility	21%
Resource Constraints	17%

Skills Freelancers are Keen to Upskill In¹²

Business Strategy	62%
Business Development	59%
User Experience Design	56%

Notes:
10 - NDIMS 2021/2022 Freelancer Survey.
11 - NDIMS 2021/2022 Enterprise Survey.
12 - NDIMS 2021/2022 Freelancer Survey.

02 Emerging Trends

Trends Affecting the Design Workforce

Sustainable Future

Digital Future

Caring Future

Preparing for the Future

2.1 Trends Affecting the Design Workforce

Macro-trends such as digital disruption, climate change, and societal fractures have deep implications all over the world. Based on discussions with industry leaders and a scan of these global macro-trends, we make three broad observations:

First, governments and businesses are responding to climate change with renewed urgency. Many action plans to address Environmental, Social, and Governance (ESG) goals are underway.

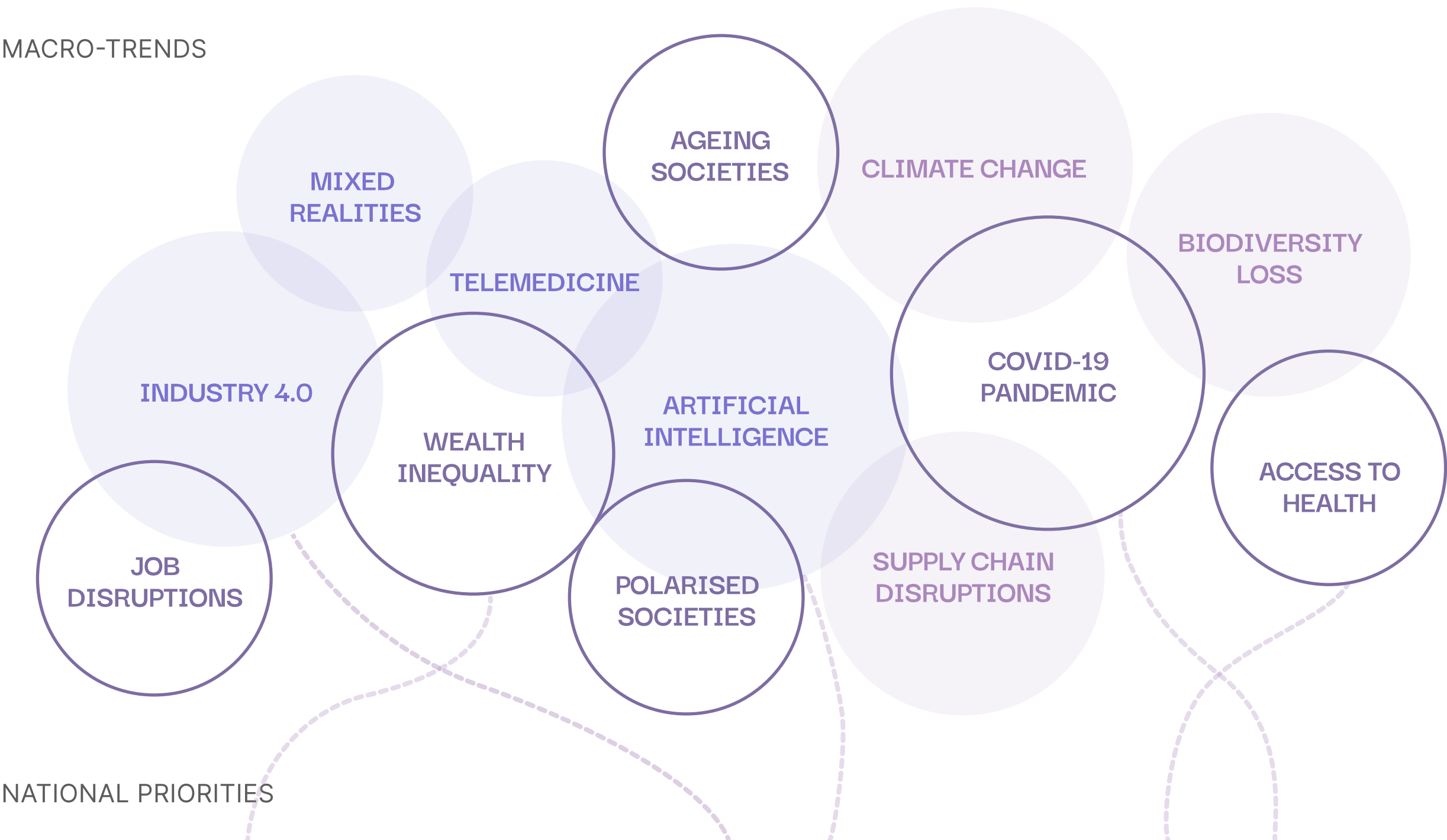
Secondly, digital disruption is the norm, with new developments in technology regularly changing the way we work. For example, artificial intelligence has matured to a point where some design outputs can be generated almost instantaneously with a simple text prompt.

Thirdly, COVID-19 reveals fractures in society. In its wake, we are forced to reconsider how work and life take place. The long-term repercussions of the pandemic necessitate a shift towards rebuilding trust, resilience, and cohesion in our everyday lives.

Singapore is responding to these global headwinds by steering the nation towards Sustainable, Digital, and Caring Futures¹³.

In this segment, we provide an overview of what these futures entail, and opportunities for design to be high-value contributors to Singapore in tandem with these trends.

MACRO-TRENDS



NATIONAL PRIORITIES

SUSTAINABLE FUTURE

- Transform into a society & economy where people & planet can flourish together
- Eliminate resource waste, in business and daily living
- Innovate and drive nature-positive solutions

DIGITAL FUTURE

- Connected society
- Digitally enabled businesses
- Source of good jobs
- Home to disruptive tech innovators and market leaders

CARING FUTURE

- A compassionate citizenry where everyone feels valued, included, & a sense of belonging
- Equitable access to opportunities & support including education & care
- A home that supports the needs of a diverse population

Notes:
13 - Based on a review of local and international reports and expert insights.

2.2 Sustainable Future

Addressing the climate crisis is now a global imperative. Governments and businesses are racing to transit towards the circular economy, driven by energy shortages and evolving regulations.

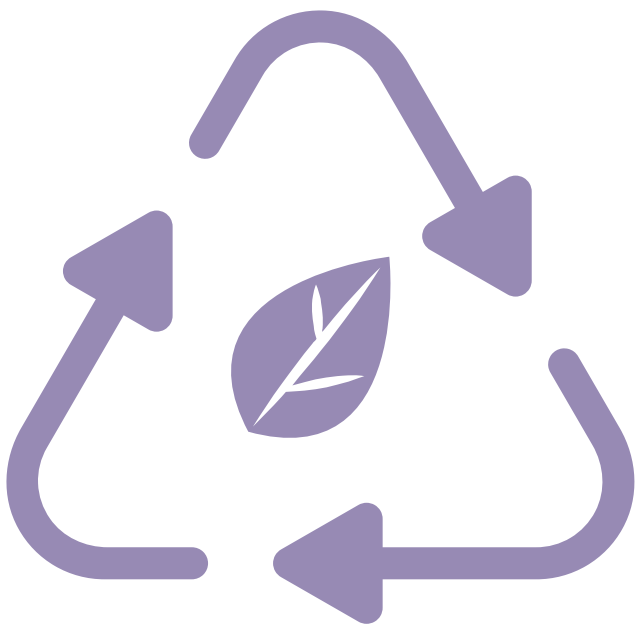
Designers are gatekeepers in a product's life cycle and can shape decisions at a strategic level, across many sectors. Therefore, we have the responsibility to upskill and prepare for a greener future.

“I don’t think we would hire somebody who doesn’t buy into sustainability at some level. If somebody totally rejects that, then I think that’s a dealbreaker.”

– Director, Design Consultancy

“Carbon will and should be the new language for our sector... My take is that in the future, we’ll begin to think of and understand space in terms of carbon footprint.”

– CEO, Architecture Firm



Growth Opportunities for Design

1

Design, Measure & Manage Sustainable Built Environments

Curb environmental emissions from the built environment by redesigning construction techniques, such as developing sustainable materials, carbon-capture solutions, and energy efficient urban systems.

2

Lead & Enable Circular Economy Transformation

Apply design thinking, leadership, and innovation skills to catalyse change from linear to circular business models.

3

Incubate & Grow Nascent Green Industries

Support the growth of climate-tech businesses by using design to make nascent products & services more viable and desirable. For example, visual communication and development of prototypes.

2.3 Digital Future

With constant and rapid digital disruption, companies respond by leveraging digital technologies to enhance business performance, by creating new value for customers and overcoming operational inefficiencies.

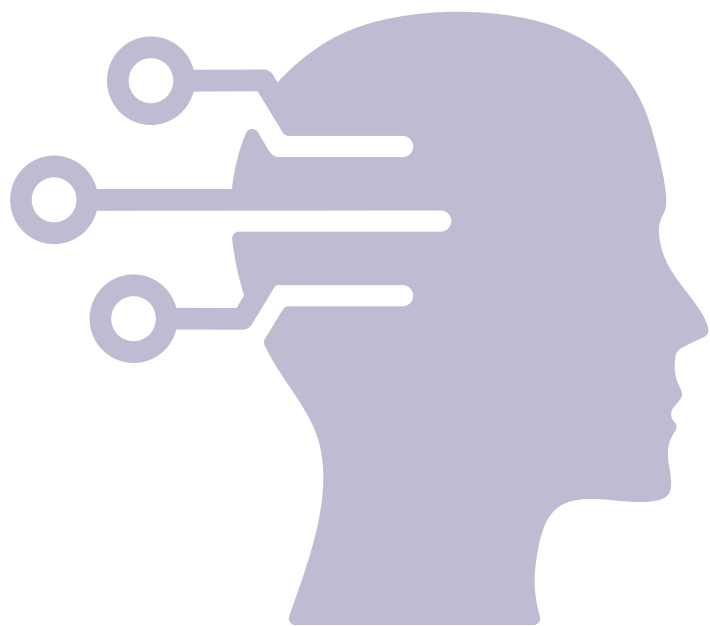
“People don’t understand that design is 80% of digitalisation, not 20%... I don’t think designers realise their power.”

– Managing Director, Statutory Board

Design has always been at the frontier of technological advancement. For example, designers harness technology to create delightful and seamless experiences, or make services more accessible. The design workforce must evolve with technology, to ensure that it improves our quality of life rather than diminishes it.

“Designers need to learn to direct business, read financial statements, set up strategies, run the ecosystem, establish partnerships, shape the product and lead. That’s how you design something.”

– Director, Design Consultancy



Growth Opportunities for Design

1

Ascend the Digital Leadership Ranks

Influence and shape how digital products are produced, delivered, and enhanced. Be recognised as a business equal, by bridging business outcomes and user-centric experiences.

2

Deepen Design & Technological Collaboration

Develop greater technological literacy to create boundary-pushing digital design experiences with tech teams. Understand the parameters of a range of technologies and their applications, so as to employ them strategically and effectively.

3

Humanise & Drive Adoption of Emerging Technologies

Advocate for the human experience in the deep technology innovation space. Lead user-centric research and identify appropriate go-to-market strategies for emerging technologies.

2.4 Caring Future

The world is in a fragile state - the beginning of the decade has witnessed social unrest, a collapsing economy, and threats to a rules-based international order. These complex disruptions fracture societies. Therefore, it is imperative for designers to step in and innovate for the social good .

Designers can and must use their skills to shape a healthy post-pandemic recovery. In particular, high-touch industries such as education, healthcare, and the social sector are well-deserving of our efforts and expertise.

“We need an army of social designers... These projects take a long time, and you need to go slower and deeper. The care economy is not about industries, but about human sectors where we can’t rush change.”
– Founder, Social Design Network

“I’d like to champion the role of inclusive design... there are endless opportunities lined up. I would like to see social services having architects, UX designers, and industrial designers. These are some of the core disciplines that I think has a huge role to play in the social scene.”
– Head of Inclusive Design, Special Needs School



Growth Opportunities for Design

1

Revitalise & Transform High-Touch Sectors

Address the pressing challenges of the high-touch sectors, such as healthcare, education, and social services. Challenges are multidisciplinary in nature, and can range from internal, to organisational change, to front-facing design innovations.



2

Build an Enduring & Endearing City

Foster belonging and attachment to the city and local communities. Use design elements in the built environment to bring communities together, interact meaningfully, and rejuvenate civic life.



3

Co-design for Social Cohesion, Connectedness & Community

Rally communities together through participatory design processes to design a shared vision of the future. In micro-communities (e.g. neighbourhoods), or the nation at large. (e.g. civic participation, national conversations)



2.5 Preparing for the Future

As business and consumer demands evolve, designers must stay ahead to be high-value contributors. The following list of skills are what design employers believe to be essential for designers in the near future. The list is non-exhaustive and provides a starting point for reskilling and upskilling.

An indicative and non-exhaustive list of highly-impacted design roles is also shown below. These roles are well-positioned to lead in the growth opportunities. Designers in these roles can expect their job scopes to continue evolving and expanding.

 SUSTAINABLE FUTURE	 DIGITAL FUTURE	 CARING FUTURE
SKILLS		
Biophilic Design Principles	Analytical Thinking	Change Management
Carbon Mitigation Strategies	Change Management	Cultural Sensitivity
Carbon Measurement & Management	Data Interpretation	Design Facilitation
Change Management	Emerging Technology Synthesis	Design for Dignity & Inclusion
Circular Business Model Innovation	Entrepreneurial Skills	Leadership & Influence
Persuasive Storytelling	Leadership & Influence	Measurement of Social Impact
Product Lifecycle Analyses	Product Management	Social Innovation
Sustainable Material Innovation	Stakeholder Management	Stakeholder Management
Systems Thinking	Technological Literacy	Systems Thinking
HIGHLY IMPACTED ROLES		
<ul style="list-style-type: none">• Architect• Business Designer• Landscape Architect• Service Designer• Strategist• Urban Designer/Planner	<ul style="list-style-type: none">• Business Designer• Design Researcher• Experience/UI/UX Designer• Strategist	<ul style="list-style-type: none">• Business Designer• Design Researcher• Experience/UI/UX Designer• Service Designer• Strategist

03 Future Outlook

Hiring Outlook

Job Roles in Demand

Skills in Demand

Conclusion

3.1 Hiring Outlook

As society becomes more susceptible to disruption, designers will become more critical for future-proofing organisations. Hence, a career in design enjoys promising prospects in Singapore. Firms across the industry are keen to hire designers, and are willing to compensate them well.

51.2%
of survey respondents plan to actively add design headcount in 2023.

According to the Enterprise Survey, 51.2% of respondents intend to actively add design headcount to their organisations in 2023, while the remaining 48.8% will maintain their current design headcount.

The Compensation Study reveals that the median gross monthly income of designers (excluding employer’s CPF contributions) is approximately SGD \$6,000 in 2022. This is around 50% more than the median income of full-time employed residents in Singapore.

“Designers actually make up the top 20% of whom we want to hire.”

– Chief Investment Officer,
Biotech Firm

This signals that more organisations are recognising the value of design, and the future of design is an optimistic one.

~\$6,000
Median Income of
Designers¹⁵
in 2022

\$4,000
Median Income of
Full-Time Employed
Residents¹⁴
in 2021

Notes:
14 - Ministry of Manpower, Labour Force in Singapore Report (2021). The figure excludes employer’s CPF contributions.
15 - NDIMS 2021/2022 Compensation Study.

Fig 5: Comparison of Median Monthly Gross Wages (\$SGD)

3.2 Job Roles in Demand

The fastest growing design roles¹⁶ are defined as roles with the highest CAGR.

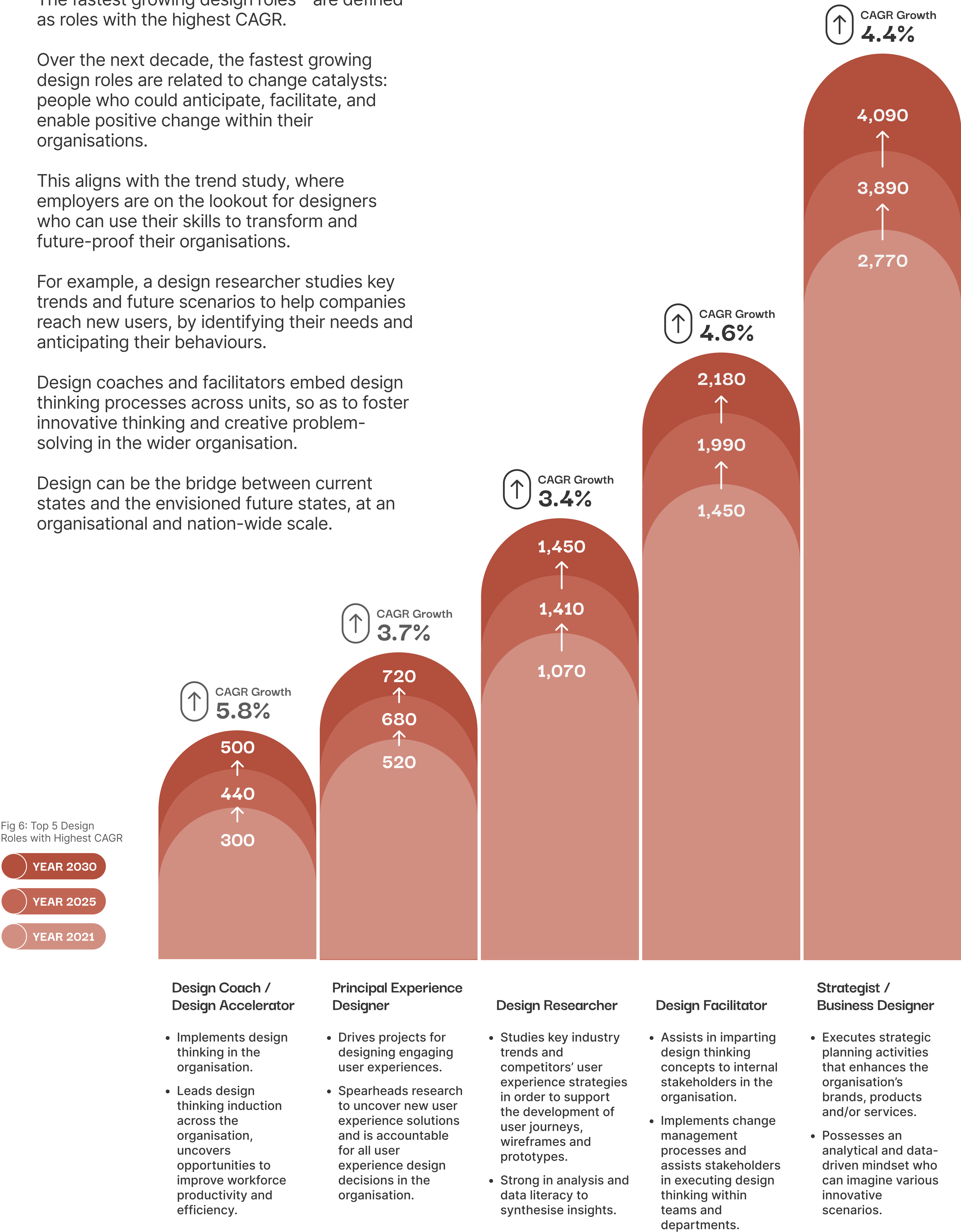
Over the next decade, the fastest growing design roles are related to change catalysts: people who could anticipate, facilitate, and enable positive change within their organisations.

This aligns with the trend study, where employers are on the lookout for designers who can use their skills to transform and future-proof their organisations.

For example, a design researcher studies key trends and future scenarios to help companies reach new users, by identifying their needs and anticipating their behaviours.

Design coaches and facilitators embed design thinking processes across units, so as to foster innovative thinking and creative problem-solving in the wider organisation.

Design can be the bridge between current states and the envisioned future states, at an organisational and nation-wide scale.



Notes:
16 - Descriptions of the design roles are extracted from the Skills Framework for Design.

3.3 Skills in Demand

As the demand for the design workforce is strengthening in non-design sectors, designers need to transcend their craft and collaborate with other disciplines to meet shared business objectives.

While upskilling in design craft skills is still necessary, this alone is insufficient for the design workforce.

Based on industry sentiment¹⁷, firms are searching for design talents who possess transdisciplinary skills, particularly in analytical thinking, business strategy, creativity, and design communication.

“Of course, we want somebody who can deliver a high standard of design deliverables. But more importantly, we need people who can collaborate and communicate well with businesses in order to drive business outcomes.

These people demonstrate great interest in learning, have great capacity to analyse lots of data, and can share it back in clear, thought-provoking ways.”

– Head of Design, Healthcare MNC

Designers need to channel their creative faculties towards shaping business opportunities, rather than solely delivering on aesthetics.

Moreover, with the right upskilling, a career in design is viable for people without formal design education.

Based on the Enterprise Survey, 54% of employers prefer their hires to have design-related qualifications, but this is not a strict requirement.

14% of employers indicate that design educational qualifications are neither preferred nor required to fulfil design roles in their organisations. This suggests that employers’ expectations of designers are shifting away from solely craft-centric contributions.

Top 5 Essential Skills

SKILLS CATEGORY	SPECIFIC SKILLS
ANALYTICAL THINKING	<ul style="list-style-type: none">• Conceptual Thinking• Critical Thinking• Data Analysis & Interpretation
CREATIVITY	<ul style="list-style-type: none">• Aesthetic & Design Sensibility• Design Thinking Practice• Imagination & Exploration
DESIGN COMMUNICATION	<ul style="list-style-type: none">• Content & Development Strategy• Facilitation• Visual Communication
TECHNICAL CRAFT	<ul style="list-style-type: none">• Design Creation & Development• Design Standards & Specification• Digital & Physical Prototyping
BUSINESS STRATEGY	<ul style="list-style-type: none">• Business Model Innovation• Creative Entrepreneurship• Scenario & Strategic Planning

Note:
17 - NDIMS 2021/2022 Enterprise Survey.

Conclusion

The design sector today, including design freelancers, is in a healthy position. The outlook for design is optimistic, and employers are eager to embed design roles in their organisations.

The next chapter for the design workforce is to seize growth opportunities that advance Singapore's strategic priorities in the Sustainable, Digital, and Caring futures. These desired futures will not happen by chance - they will happen by design.

Much needs to be done for the design workforce to maximise its potential. Designers must rise above perfecting their craft alone, and connect their skills with business priorities.

This is evidenced by employers' high demand for analytical thinking, creativity, business strategy, and design communication skills, in addition to technical craft skills.

The findings from this study illustrate how critical and urgent it is for designers and educators to evolve along with ever-advancing industry needs.

Acknowledgements

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We wish to thank all organisations, industry professionals, and colleagues from the public sector who contributed to this study.

“Industries are disrupted, automation is at our heels. It’s coming fast and it’s coming furiously.

Businesses are scared that everything is changing so fast. Here, design has a beautiful role to play ... we can harness its disruptive power and shape it to create a force.

But if we don’t play that role, we are doing a disservice to these organisations. They will go about business as usual. The net result is that we (designers) would have let this opportunity slip through our fingers.”

– Director, Design Consultancy



Appendix

List of Job Roles Investigated in NDIMS 2021/2022

DESIGN TRACK

S/N	JOB TITLE	DESCRIPTION
1	Chief Design Officer/Chief Innovation Officer/Chief Experience Officer/Chief Strategy Officer	The Chief Design Officer/Chief Innovation Officer/Chief Experience Officer/Chief Strategy Officer maintains an overview of all design projects in the organisation. As a senior executive in the organisation, he/she directs the quality of all design output and formulates new ideas to propel the growth of the organisation.
2	Principal Designer	The Principal Designer provides design direction for multiple project teams and leads change management initiatives. He/She identifies new approaches to expand the organisation’s product and service offerings.
3	Lead Designer	The Lead Designer manages all aspects of the design process, from research and ideation to creative conceptualisation and design. He/She leads team members and collaborates with stakeholders to research and develop cohesive design plans, concepts and prototypes.
4	Designer	The Designer executes research to gather data and translates insights into design outcomes. He/She possesses master of design fundamentals and technical skills to execute design concepts required for products and services.
5	Lead Visualiser/Storyteller	The Lead Visualiser/Storyteller leads design concept visualisation. He/She manages project scopes for concept visualisations and oversees the development of visualisation tools and communication output for the organisation. As a team lead, he provides on-the-job training and feedback to enhance the core competence of his team members. He/She also leads presentations of design visualisations and collaterals to clients, and research efforts to uncover new methods of visual delivery.
6	Visualiser/Storyteller	The Visualiser/Storyteller creates design concept visualisation in various relevant formats, depending on the context and requirement of the project. He/She uncovers new methods of visual delivery and communicates data-driven insights to stakeholders. He/She also needs to visualise new design ideas by executing sketch prototypes and mock-ups for the development of the designs.
7	Content Strategist	The Content Strategist strategises the content delivery and promotion that will persuade readers. He/She builds relationships with stakeholders to understand various project requirements before leading junior staff in content creation.
8	Content Writer	The Content Writer plans, writes and coordinates content that will deliver a persuasive point to readers. He/She works in close partnership with various stakeholders to determine tone-of-voice, and brainstorm ideas and concepts in various media forms.

List of Job Roles Investigated in NDIMS 2021/2022

BUSINESS TRACK

S/N	JOB TITLE	DESCRIPTION
1	Head of Design Production	The Head of Design Production leads the Design Production team to meet the goals and objectives of the product plans. He/She also develops strategies to mitigate any risks that have been identified during the design production process.
2	Design Production Manager	The Design Production Manager is accountable for managing production projects. He/She supervises teams to develop design prototypes and recommends adjustments to enhance the design of production prototypes.
3	Head of Projects/Product	The Head of Projects/Product takes ownership of the implementation and achievement of overall design project objectives. He/She collaborates with stakeholders on the creation of project plans and oversees project scope changes.
4	Design Project Manager	The Design Project Manager plans and implements design project objectives. He/She outlines and manages project timelines and activities in collaboration with stakeholders.
5	Design Product Manager	The Design Product Manager is in-charge of one or more design products/features and oversees their life cycles. He/She champions the product development through ideation, prototyping and delivery. He/She ascertains commercial needs of projects and integrates key market feedback into the product for ideation and development.
6	Head of Transformation	The Head of Transformation oversees delivery of transformation programme for the organisation. He/She establishes desired change outcomes for the organisation and designs organisational-wide change management programmes.
7	Design Coach/Design Accelerator	The Design Coach/Accelerator implements design thinking in organisations. He/She leads design thinking induction across the organisation and uncovers opportunities for improving workforce productivity and efficiency.
8	Design Facilitator	The Design Facilitator assists in imparting design thinking concepts to internal stakeholders within the organisation. He/She implements change management processes and assists stakeholders in leveraging design thinking within teams and departments.

List of Job Roles Investigated in NDIMS 2021/2022

INNOVATION TRACK

S/N	JOB TITLE	DESCRIPTION
1	Principal Service Designer/ Experience Designer	The Principal Service Designer/Experience Designer drives complex projects to design engaging user experiences. He/She is accountable for all user experience design decisions within the organisation.
2	Lead Service Designer/Experience Designer	The Lead Service Designer/Experience Designer enhances the user experience by improving the usability, accessibility and pleasure provided in the interaction with the product. He/She designs and shapes user-centric products and experiences.
3	Principal Design Researcher	The Principal Design Researcher manages all aspects of research by leading project teams to translate human-centred insights into meaningful opportunities for design and innovation. He/She conceptualises new research studies and builds key relationships with stakeholders to determine changes to be instituted for products and/or services.
4	Lead Design Researcher	The Lead Design Researcher leads a project team in translating human-centred insights into meaningful opportunities for design and innovation. He/She leads the analysis of complex data, advances research studies and determines changes to be instituted for products and/or services.
5	Design Researcher	The Design Product Manager is in-charge of one or more design products/features and oversees their life cycles. He/She champions the product development through ideation, prototyping and delivery. He/She ascertains commercial needs of projects and integrates key market feedback into the product for ideation and development.
6	Head of Strategy	The Head of Strategy oversees the development, communication and execution of strategic initiatives with the aim of winning new business deals for the organisation. He/She directs strategic alignment of research projects across multiple teams and stakeholders, and drives stakeholder understanding and strategy creation across the organisation.
7	Lead Strategist/Lead Business Designer	The Lead Strategist/Lead Business Designer executes strategic planning activities that will enhance the organisation's brands, products and/or services. He/She analyses market intelligence data to identify new opportunities for the organisation, and leads brainstorming sessions with stakeholders to harness solutions for the organisation. He proposes new design concepts in alignment with strategic goals and new ventures for revenue generation. As a team lead, he/she coaches junior team members, and works closely with a diverse group of stakeholders.
8	Strategist/Business Designer	The Strategist/Business Designer has a strong understanding of the organisation's challenges and opportunities and generates ideas for furthering the market potential of the organisation. He/She conducts data analysis and modelling for future projections based on findings from research studies, to produce insights on the possible scenarios for the organisation's strategic trajectory.

List of Job Roles Investigated in NDIMS 2021/2022

TECHNOLOGY TRACK

S/N	JOB TITLE	DESCRIPTION
1	Creative Technologist	The Creative Technologist is a technology-focused professional who understands the creative process and spearheads the research and innovation of new products and improvement of existing products. He/She works in close partnership with stakeholders to revitalise design solutions for outdated products and/or services.