



GOOD WORK DESIGN

**Human Factors & Ergonomics
Society of Australia Inc.**

Table of Contents

What is Good Work?	2
What is Good Work Design?.....	2
How is Good Work Design Achieved?.....	3
GWD Phase: Discovery.....	4
GWD Phase: Design	5
GWD Phase: Realisation	6
What Happens When Good Work Design is not Considered?	6
What is the Position of HFESA on Good Work Design?.....	7
What is the Role of the Human Factors Specialist & Ergonomist in Good Work Design?	7
Published GWD Examples	7
Good Work Design Advisors	7
Additional Resources	8
Position Paper Committee Members	9
CHAIR:	9
MEMBERS:	9
References	11

What is Good Work?

Good work involves activities that are purposeful, that fortify and condition the worker, that engage workers and create positive impact, and that are meaningful to those who do the work.ⁱ The work is agile, adaptable, and flexible, and advances organisational strategy while promoting and protecting worker health.ⁱⁱ Good work helps people participate, contribute, and achieve great thingsⁱⁱⁱ while operating at the peak of their performance curve.^{iv} The work expectations are transparent and manageable, and the activities can be achieved by the physical, cognitive, social skillsets, and capacities of workers.^v Work organisation has been designed to provide adequate support and technology and systems are in place to enable a sensible and manageable degree of autonomy in decision-making. The work environment is enterprising and conducive to health and happiness.^{vi} Good work is work (mental, social, and physical activity) that offers additional benefits and it:

- involves co-design with consultative and participative practices among workers; maintenance staff; team leaders; associated business unit managers; suppliers; project partners, such as human factors and ergonomics specialists, engineers, or interior and urban designers; and, at times, regulators
- can be graduated and progressed or regressed to accommodate varied work capacity
- has been designed for diversity
- is cognitively challenging to the “just-right” degree, where workers are inspired and continually learning through shared problem-solving
- is expressed through engagement in meaningful tasks; socially constructive team development activities; or activities of a higher order that align with personal values, such as the advancement of animal welfare or environmental sustainability

What is Good Work Design?

Good Work Design (GWD) is a human-centred approach to ensure that good work is available to workers.^{vii} It focuses on people at work. It is a holistic and inclusive process that considers all aspects of human performance at work and enables prosperous working conditions. Since ergonomics is the study of human-system interactions, the two concepts, people and work, are a central focus when considering tasks, equipment interface, job roles, environments, and systems.^{viii} The goal of GWD is to enhance productivity, health, wellbeing, and safety of employees within existing legal frameworks. It relates to good business and generates wider benefits for the industry and the society since it contributes to sustainable economies, healthful living, and positive environments. GWD does not mean increasing production costs because it mainly affects the most price-elastic component of our workplaces: the people.

When employing principles of human factors and ergonomics, GWD identifies opportunities to be realised or problems that can be addressed and leads to improvements to job tasks, equipment, tools, the working and technical environment, activities, relationships, roles, and/or responsibilities.^{ix} GWD is about the (re)design of work (i.e. what we do) and job (i.e. how we do), such as the tools and equipment with which workers interface or maintain, the computer software with which workers engage, the learning and development strategies, the communication strategies at work, the schedules and rosters, the work flow and allowances for rest and recovery, or the social and physical environment in which work occurs.^x It is a systematic approach (i.e. follows specific stages customised to each workplace) and is based on systems thinking (i.e. considers interactions and dependencies among all workplace elements such as staff, technology, and the environment). The three principal GWD stages are (1) DISCOVERY, (2) DESIGN, and (3) REALISATION of tangible outcomes towards good work. The GWD stages necessitate collaboration among all stakeholders, and the results of GWD are communicated and celebrated to acknowledge the success that was achieved.

GWD draws on a broad and diverse range of scientifically proven design principles to achieve its objectives.^{xi, xii, xiii, xiv, xv, xvi, xvii} GWD is a continuous endeavour embedded in organisational activities, embraced by leaders and managers, and its effectiveness can be monitored through health, safety, and productivity outcomes.^{xviii} GWD contributes to organisational resilience that renders individuals and teams capable of dealing successfully with demands as work evolves. A corporate culture that supports changes and values workers and public health, typically through a human factors and ergonomics program that is embedded in their operations, is most likely to contribute to the success of GWD initiatives.

How is Good Work Design Achieved?

Good Work Design is an iterative process involving three phases: Discovery, Design, and Realisation. It applies to existing workplaces and activities, as well as new job tasks and equipment or product interface. It is illustrated below (Figure 1):

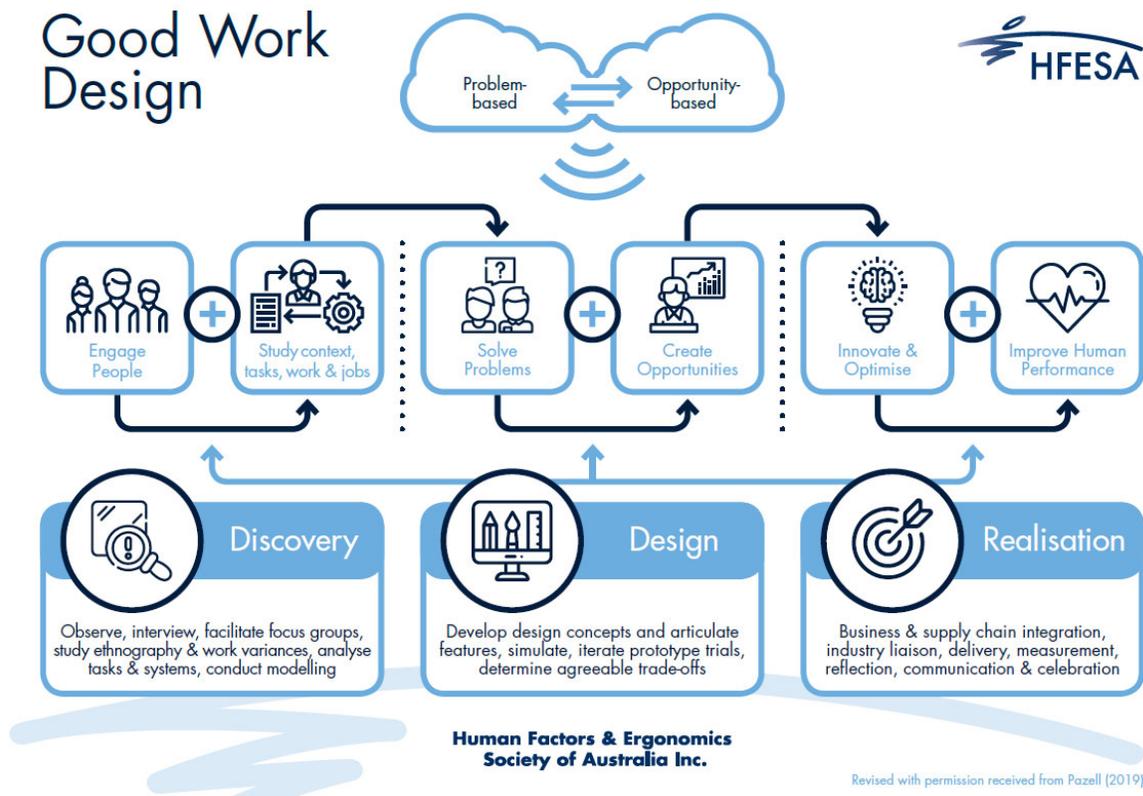


Figure 1: Good Work Design

GWD Phase: Discovery



Good Work Design starts with identifying the context of work (e.g. the location, physical environment, limitations and constraints, workforce composition, and background). This step is followed by studying the tasks performed by workers and the variety of work undertaken. GWD considers the entire operating envelope (i.e. execution of tasks under different conditions) to uncover the reasons behind possible gaps between the work as imagined (i.e. work described/prescribed in documentation or communicated verbally), and work as done (i.e. work executed in real operating conditions).^{xix} A significant work improvement opportunity may arise when work adaptations and variations (i.e. “workarounds”) are proven beneficial and can lead to the revision of standard procedures with recognition of field experience and knowledge. Similarly, when work-related hazards are identified, and the interaction of these factors are found to impact productivity, wellbeing, health, and safety, GWD aims to optimise work or job design.^{xx,xxi}

Once tasks are identified, the resource requirements of work (i.e. task components) are analysed and studied by considering the physical and mental capabilities of workers as well as their preferences and emotional needs. Human mental models (i.e. thinking of how something works), tactics (i.e. work approaches), and interactions with tools, equipment, and the social, physical, and technical environment can be examined. Depending on the scale and scope of the analysis, GWD practitioners can consider system-level components (i.e. ones outside the workplace of interest) and ethnographic research of the workforce (i.e. the study of people, culture, and habits or tactics).

The discovery phase concludes with the identification of key concepts and features and, thus, lead indicators and measurements to evaluate outcomes. Methods often used in the discovery phase of GWD include interviews and direct observations, task analyses, modelling, and qualitative or quantitative measurements through standardised or unique approaches and tools.

GWD Phase: Design



The development of solutions may range from convergence (i.e. inclusion and reconciliation of different ideas) to divergence (i.e. pulling ideas apart to explore pioneering avenues). The GWD practitioner maps the conditions for optimum human work and system performance and facilitates a co-design process with the engagement of workers, team leaders, and any other relevant stakeholders. Similar to the discovery phase, the design phase of GWD brings people and teams together to determine solutions that are widely accepted and supported by empirical evidence.^{xxii} This phase necessitates partnerships among relevant staff and departments (e.g., engineering, facilities management, finance and procurement, human resources, training departments) to achieve robust and sustainable outcomes that unify business objectives and convince leadership to invest in the initiatives.

In this phase, participative and collaborative co-design approaches are undertaken to empower a workforce to become architects and owners of improved work design. This participatory approach extends to testing and trials during the (re)design process where workers become part of the solution by helping to establish acceptance/rejection criteria, and by providing feedback. Through trials of design versions, the discovery journey continues throughout this phase via the collection and analysis of data and information. Various models of work can be tested through simulation and micro-experiments to gain an initial understanding of what might work well or not and how it may be accepted. Drawings of concepts and ideas, prototypes, draft documents or computer programs are some of the methods and tools used in this phase.

GWD Phase: Realisation



This phase of Good Work Design refers to tangible deliverables and outcomes leading to work improvements. Improvements are identified in the discovery phase, tested in the design phase, and deemed suitable to achieve the optimum level and balance between productivity, health, wellbeing, and safety of employees. Examples of how GWD may be realised include (1) energy optimisation that prevents or delays cognitive and physical fatigue, (2) manual tasks that are suitable for diverse populations, (3) social systems that encourage teamwork and support problem solving with a 'just-right degree' of challenge, (4) enhanced learning via immersive experiences with high-fidelity (like reality), (5) spatial collaboration systems that are accessible and easily translated (helping people imagine and relate to spaces and scenarios that are true), (6) notable appreciation and inclusion of job experience and true work (so workers have a voice and it is known how work is actually performed), and (7) improved health through agile work environments that cater to diverse ways of making sense of the world (such as catering to our neurological needs).

The positive effects and outcomes of GWD may take time to be realised. There may be time needed for staff to adapt to the new or modified work elements, whether it be through physical, cognitive, and/or affective conditioning. Well-executed discovery and well-thought and tested design processes are expected to generate accepted, suitable, and sustainable GWD deliverables and outcomes. However, the reality of the ever-evolving work environment (e.g., a workforce composition change, pandemics, or an introduction of new technology and embedding new work models), means that designing good work is a continuous journey. Good work design requires astute leadership of organisations prepared to continually investigate, reflect, and design resilient operating strategies.

What Happens When Good Work Design is not Considered?

Work that lacks the principles and considerations of Good Work Design can lead to risks of reduced accessibility of services, products or systems; poor usability of tools, devices or systems; costly product and system failures; ineffective training and engagement initiatives; fractured or inauthentic support for diversity and positive safety culture; increase of musculoskeletal disorders; low levels of workforce competence; compromise of safety and/or security; psychosocial hazards and occupational stressors; low-levels of change-readiness; and adverse environmental impact.^{xxiii, xxiv, xxv, xxvi, xxvii, xxviii}

What is the Position of HFESA on Good Work Design?

It is the position of the Human Factors and Ergonomics Society of Australia (HFESA) that workplaces that implement good work design will be uniquely positioned for competitive, reputable, and resilient operations. The design of good work contributes to health, engagement, and productivity. Good work design extends beyond a health and safety agenda and is most effective when implemented as a whole-of-business strategy. Certified Professionals of the Human Factors and Ergonomics Society of Australia are specialised in facilitating, coordinating, and advancing good work design.

What is the Role of the Human Factors Specialist & Ergonomist in Good Work Design?

A Certified Professional of the Human Factors and Ergonomics Society of Australia is a design professional who has been deemed credible to consider human factors and systems in design: the cognitive, physical, organisational, and environmental influences that can affect human performance. The human factors specialist / ergonomist may help facilitate team engagement; provide training and coaching; serve as a catalyst to design-thinking; stimulate creativity and innovation to help organisations or design teams “think outside the box”; determine risk or identify opportunities; develop design philosophy, principals, concepts, and features; test ideas; liaise with other design faculty; employ scientific evidence to establish design principles; and facilitate the realisation of new products, systems, or work methods.

Published GWD Examples

Refer to: <https://www.ergonomics.org.au/ergonomics-and-human-factors-in-action/ergonomics-and-human-factors-in-action/who-needs-ergonomists>

Good Work Design Advisors

A certified professional of the HFESA, specialising in work design, can advise organisations in these approaches. Contact: <https://www.ergonomics.org.au/find-a-cpe>

Additional Resources

HFESA: Human Factors &
Ergonomics Society of
Australia

<https://www.ergonomics.org.au/>

HBGW: Health Benefits of
Good Work

<https://www.racp.edu.au/advocacy/division-faculty-and-chapter-priorities/faculty-of-occupational-environmental-medicine/health-benefits-of-good-work>

Handbook - Principles of Good
Work Design

<https://www.safeworkaustralia.gov.au/doc/handbook-principles-good-work-design>

Good work design and
applying it to psychosocial
risks

<https://www.safeworkaustralia.gov.au/media-centre/good-work-design-and-applying-it-psychosocial-risks>

Centre for Transformative
Work Design

<https://www.transformativeworkdesign.com/>

Position Paper Committee Members

CHAIR:

- Dr Sara Pazell (CPE)
- Managing Director, ViVA! Health at Work
 - Industry Fellow, University of Queensland Sessional Academic and Research Supervisor – Australian Catholic University, University of the Sunshine Coast, & Queensland University of Technology

MEMBERS:

- Dr Nektarios Karanikas
- Associate Prof in Health, Safety & Environment Queensland University of Technology
- Andrew Wright (CPE)
- Snr Human Factors Specialist Segula Technologies Australia
- Dr Elise Crawford (COHSProf)
- OHS Lecturer CQUniversity Australia
- Suzanne Johnson (CPE)
- Manager, Ergonomics Unit Workplace Health and Safety Queensland Office of Industrial Relations
- Dr Wendy Elford (CPE)
- Experience Design & Work Systems Analyst Now to Next Pty Ltd
- Dr Ari Antonovsky
- Senior Research Fellow – Applied Human Factors University of Western Australia
- Stephen Hehir (CPE)
- Manager, Safe Design. People and Culture Australia Post
- Dr Anita Hamilton
- Senior Lecturer, Occupational Therapy University of the Sunshine Coast
- Michelle Strother
- Director, Occupational Health Physiotherapist Injury Prevention Plus Pty Ltd
- Alan Girle
- Solicitor
- Dr Valerie O’Keefe (CPE)
- Senior Research Fellow, Human Factors Australian Industrial Transformation Institute Flinders University

- | | |
|---------------------|---|
| Dr Lidiane Narimoto | <ul style="list-style-type: none">▪ Advisor – Production Engineering & Human Factors
Sessional Academic, <i>Federal</i> University of São Carlos -
Brazil |
| Dr Brendon Gien | <ul style="list-style-type: none">▪ Chief Executive Officer
Good Design Australia |
| Tony Egan | <ul style="list-style-type: none">▪ Earth Moving Equipment Safety Round Table (EMESRT)¹ |

¹ Note: consultation through the development process of this model has occurred with the mining industry group, the Earth Moving Equipment Safety Round Table (EMESRT), who have successfully been working with designers from Original Equipment Manufacturers and 3rd Party suppliers to influence significant human factors design change in major mining equipment.

References

- i Morgan, J. (2020, July 2). Creating Meaningful Work: The Future of Work. Retrieved from: <https://www.linkedin.com/pulse/difference-between-purpose-meaning-how-create-both-jacob-morgan/?trackingId=MrIE7GKiXqyu0FBZ3XOOZQ%3D%3D>
- ii Safe Work Australia. (2015). Principles of Good Work Design: A Work Health and Safety Handbook. Retrieved from: <https://www.safeworkaustralia.gov.au/system/files/documents/1702/good-work-design-handbook.pdf>
- iii Waddell, G. & Burton, K. A. (2006). Is Work Good for Your Health and Well-Being? London, UK: TSO.
- iv Wickens, C. D., Gordon, S. E., & Liu, Y. (1998). An Introduction to Human Factors Engineering. New York, NY: Longman.
- v International Standards Organisation (ISO) (2016). Human-Centred Organisations. ISO Standard 27500:2016.
- vi Golembiewski, J. A. (2012). Salutogenic design: The neural basis for health promoting environments. *World Health Design Scientific Review*, 5(4), 62 – 68.
- vii International Standards Organisation (ISO) (2016). Human-Centred Organisations. ISO Standard 27500:2016.
- viii Baum, C. M., Christiansen, C. H., & Bass, J. D. (2015). The Person-Environment-Occupation- Performance (PEOP) model. In C. H. Christiansen, C. M. Baum, & J. D. Bass (Eds.), *Occupational therapy: Performance, participation, and well-being* (4th ed., pp. 49-56). Thorofare, NJ: SLACK Incorporated.
- ix Safe Work Australia (SWA) (2015). Principles of Good Work Design Handbook. Canberra, ACT: Safe Work Australia.
- x International Standards Organisation (ISO) (2016). Ergonomics Principles in the Design of Work Systems. ISO Standard 6385: 2016
- xi Design Council, UK. What is the framework for innovation? <https://www.designcouncil.org.uk/news-opinion/what-framework-innovation-design-councils-evolved-double-diamond> (accessed 07 November 2019).
- xii Safe Work Australia. (2019). Safe design. Retrieved from <https://www.safeworkaustralia.gov.au/safe-design>
- xiii Royal Australasian College of Physicians & Australasian Faculty of Occupational and Environmental Medicine (2013). What is good work? Position statement. Accessed at: <https://www.racp.edu.au/docs/defaultsource/resources/afoem-pos-what-is-good-work-2013.pdf>
- xiv Hollnagel, E., Woods, D. D., & Leveson, N. (Eds.). (2006). Resilience engineering: Concepts and precepts. Aldershot, England: Ashgate
- xv Dul, J.; Bruder, R.; Buckle, P.; Carayon, P.; Falszon, P.; Marras, W. S.; Wilson, J. R.; Van der Doelen, B. (2012). A strategy for human factors/ergonomics: developing the discipline and profession. *Ergonomics*, 55(4), 377-395.
- xvi Tullis, T., Albert, B. (2008). *Measuring the User Experience: Collecting, Analyzing and Presenting Usability Metrics*. Burlington: Elsevier.
- xvii Don Norman: The term "UX" (2016, 2 July 2016). [NNGroup YouTube]. Retrieved 25 February 2020 from https://www.youtube.com/watch?time_continue=3&v=9BdtGjoIN4E&feature=emb_logo
- xviii International Standards Organisation (ISO) (2016). Human-Centred Organisations. ISO Standard 27500:2016.

- xix Sharrock, S. (2017). The varieties of human work. *Safety Differently*. <http://www.safetydifferently.com/the-varieties-of-human-work/>
- xx Burgess-Limerick, R. (2018). Participatory ergonomics: Evidence and implementation lessons. *Applied Ergonomics*, 68, 289 – 293. <https://doi.org/10.1016/j.apergo.2017.12.009>
- xxi Safe Work Australia (SWA) (2015). *Principles of Good Work Design Handbook*. Canberra, ACT: Safe Work Australia.
- xxii Spirovski, V. [Valeria Spirovski]. (2018). Australian's design capability gap, how it hurts organisations & how to avoid hiring the wrong people. LinkedIn article: <https://www.linkedin.com/pulse/australias-design-capability-gap-how-hurts-avoid-hiring-spirovski/>
- xxiii International Standards Organisation (ISO) (2016). *Human-Centred Organisations*. ISO Standard 27500:2016.
- xxiv Horberry, T., Burgess-Limerick, R., & Steiner, L. (2015). Human-centred design for mining equipment and new technology. *19th Triennial Congress Proceedings of the International Ergonomics Association 2015*.
- xxv International Standards Organisation (ISO) (2010a). *Ergonomics of human-system interaction: Part 210: Human-centred design for interactive systems*. ISO 9241-210: 2010.
- xxvi Stanton, N. A., & Baber, C. (2003). Editorial: On the cost-effectiveness of ergonomics. *Applied Ergonomics*, 34, 407 – 411.
- xxvii Laing, A. C., Cole, D. C., Theberge, N., Wells, R. P., Kerr, M. S., & Frazer, M. B. (2007). Effectiveness of a participatory ergonomics intervention in improving communication and psychological exposures. *Ergonomics*, 50, (7), 1092 – 1109.
- xxviii Way, K. (2012). *Psychosocial Hazards and Occupational Stress*. In HaSPA (Health and Safety Professionals Alliance), *The Core Body of Knowledge for Generalist OHS Professionals*. Tullamarine, VIC: Safety Institute of Australia (Australian Institute of Health and Safety).