



GBN Newsletter

Issue No 30 | Global Benchmarking Network



PREFACE

Dear Members,

It is our pleasure to present you the 30th anniversary issue of the GBNewsletter.

With the last four issues of our GBNewsletter, we have been addressing the ongoing pandemic. Until this day, people around the world helped to manage the Pandemic by achieving milestones, defying the possible and the impossible. Benchmarking, as a whole showed itself as a truly indispensable tool on combating COVID – 19, as evidenced by the Global Best Practices Benchmarking Initiative led by our Vice-Chair Dale Weeks.

2022 constitutes the beginning of our exciting adventure of learning, re-learning and possibly re-writing the future of Benchmarking. With our renewed GBN board, we are joining forces from leading benchmarking organisations and individuals from all over the world to develop the GBN towards its vision: to be the global hub for Benchmarking. Hence, we are proud to share a brief presentation of our network, its history, past achievements as well as the motivations of our board members for the years to come.

2022 will also constitute a year of major events: As part of GBN's thrust to strengthen our connection as GBN members, we wish to invite you to share your *Triple Is (Eyes) namely Insights, Inspiration and Ingenuity* in designing our next blueprint on how we can re-shape the future of Benchmarking during the **2nd World Innovation and Benchmarking Summit and 13th International Benchmarking Conference (IBCON)**. This virtual joint conference, organized by the Philippine Society for Quality (PSQ) and GBN, will also constitute the venue to celebrate the **World Innovation and Creativity Day on April 21, 2022**. In order "to raise awareness on the role of creativity and innovation in all aspects of human development", as designated by the United Nations, we wish to celebrate this day as a universal meeting of like-minded thought leaders on Benchmarking and Innovation. In addition, we are pleased to announce the dates of the **8th International Best Practice Competition, 4th Organisation-Wide Innovation Award and 7th Global Benchmarking Award**. Join us and share your best practices, the competition is easy to enter and great fun! Deadline for entries is 21 February 2022 - for further information and how to participate check out the related articles in this newsletter.

In tradition, the GBNewsletter provides valuable insights into current benchmarking activities of our members. This issue is no exception - get inspired and discuss with us a Sustainability Benchmarking tool for medium-sized companies, developed by the Information Centre Benchmarking at Fraunhofer IPK Berlin. Another hot topic, the decline of STEM education in the US and around the globe, is being addressed by our Vice-Chair Dale Weeks by delivering a fully accessible state-wide and national dashboard of STEM education performance.

We are wishing you a healthy and successful 2022 -

Enjoy reading and happy benchmarking!

Dr. Robin Mann



Florian Kidschun



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Re-Shaping the Future of Benchmarking for the 4th Industrial Revolution

To all the members of the Global Benchmarking Network or GBN, we wish you a Happy New Year!

Amidst the rage of the COVID 19 pandemic, we hope to be able to strengthen the bridges we have built as GBN members.

As we continue to grapple with the endless possibilities of the future, let us step back and ponder how we can redefine Benchmarking as a powerful tool to help organizations navigate towards the 4th Industrial Revolution.

Year 2022 can be the beginning of our exciting adventure of learning, re-learning and possibly re-writing the future of Benchmarking.

Together, we may discover how benchmarking can ignite innovative ways which can save millions of lives, save our planet to make it more sustainable and save the economy to protect our families and the world.

As part of GBN's thrust to strengthen our connection as GBN members, we wish to invite you to share your Triple Is (Eyes) namely *Insights, Inspiration and Ingenuity* in designing our next blueprint on how we can re-shape the future of Benchmarking. This will also strengthen the vision



of GBN to be the Global Hub for Benchmarking.

IGNITE. PROPEL. SHARE your Triple Is (Eyes) of Insights, Inspiration and Ingenuity at the 2nd International Innovation and Benchmarking Summit and the GBN's 13th International Benchmarking Conference on the 21st April 2022"

This joint conference will also be the venue to celebrate the World Innovation and Creativity Day on April 21, 2022 as designated by the United Nations.

The United Nations designated April 21 as World Creativity and Innovation Day in order "to raise awareness on the role of

creativity and innovation in all aspects of human development."

For the GBN community, we also wish to celebrate this day as one of the universal meeting of like-minded thought leaders on Benchmarking and Innovation. This can also be the venue for us to raise uncertain thoughts, and drive conversations which can help design the Benchmarking Blueprint for the 4th Industrial Revolution.

Come join us. Be There. Be Present on April 21, 2021.

About the author:



Ma. Teresa U. Bagaman, an Industrial Engineer and MBA graduate, holds the position of Director Education & Training as Board Member of the GBN.

Teresa was the Chairperson of the 1st International Innovation and Benchmarking Summit held in 2020. She is also the current Vice-President for Business Intelligence, Innovation and Benchmarking of Philippine Society for Quality and current Vice President of the Center for Innovation and Lifelong Learning of The Medical City, Philippines. She is an endless Innovator, a Quality and Process Excellence Management Expert, Design Thin-

king Coach, Lean Six Sigma Master Black Belt, and dedicated Learning Facilitator with more than 25 years of successfully implementing Innovative and Disruptive Solutions across industries. She received a Gold Honor MBA from the Ateneo Graduate School of Business and has won the International Benchmarking Award for The Medical City in Dubai during the Global Benchmarking Competition in 2015. She has presented several technical papers in various international and local conferences.

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8th International Best Practice Competition

Call for Entries

We are pleased to announce the dates of the 8th International Best Practice Competition, 4th Organisation-Wide Innovation Award and 7th Global Benchmarking Award. Join us and share your best practices, the competition is easy to enter and great fun! *Deadline for entries is 21 February 2022, download entry forms from*

<https://www.bestpracticecompetition.com> and <https://www.globalbenchmarkingaward.com/>

Calling all GBN members to promote this global virtual event – last year it was amazing with over 60 best practices shared!!! *This year it will be even better as the event will be combined with the GBN's 13th International Benchmarking Conference details to be announced soon!*

The International Best Practice Competition (IBPC) encourages organizations to share their best operational and managerial practices, processes, systems, and initiatives and learn from the experience of others. Does your organisation excel at crisis management, remote working, employee well-being, sustainability, response time, artificial intelligence, digital trans-

formation, teamwork, customer service, branding, social responsibility, governance, future foresight, knowledge management, product development, customer focus or supplier relationships?

This year a special prize has been introduced, the Pioneer in Excellence Prize. This will be awarded to organisation(s) that have had the most best practices assessed at 5-Stars ★ ★ ★ ★ ★ or above in the last year.

In addition to the IBPC, organisations are encouraged to apply for:

IBPC's Organisation-Wide Innovation Award

This award recognises organisations that excel in inculcating an innovation culture throughout all facets of their operation from the leadership to employees and covering all stakeholders leading to innovative processes, products and services. Further information on this award can be obtained here.

GBN's Global Benchmarking Award

This award encourages organisations to share how benchmarking (comparing and learning from others) is an integral part of their improvement and innovation drive. Further information on this award can be obtained on the Global Benchmarking Network's website.

Qualifier round presentations will be held in webinar format between 20 April to 29 April 2022. Best of the Best – Awards Spectacular (the finals) will be held on 11 and 12 May 2022.

Prize Categories:

INTERNATIONAL
BEST
PRACTICE
COMPETITION



Organisation-Wide
Innovation Award



International Best Practice Competition (IBPC)

Winner(s) selected based on highest star rating & **Pioneer in Excellence Prize** (awarded to organisation(s) that have had the most best practices assessed at 5-Stars ★ ★ ★ ★ ★ or above)

IBPC's Organisation-Wide Innovation Award

Winner(s) selected based on highest star rating.

GBN's Global Benchmarking Award

Winner(s) selected based on highest star rating.



Best practices will be assessed against IBPC's Best Practice Certification Levels:

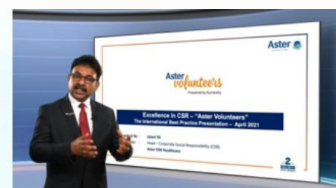
- International Best Practice (Role Model) (7 Stars, ★ ★ ★ ★ ★ ★ ★)
- International Best Practice (Outstanding) (6 Stars, ★ ★ ★ ★ ★ ★)
- International Best Practice (Excellence) (5 Stars, ★ ★ ★ ★ ★)
- Local Best Practice (Excellence) (4 Stars, ★ ★ ★ ★)
- Competence (Professional) (3 Stars, ★ ★ ★)
- Progressing (Minor Deficiencies) (2 Star, ★ ★)
- Deficient (Major Deficiencies) (1 Star, ★)

Successful entries will be invited to give an 8-minute virtual presentation on their best practice at the:

Best Practice Sharing Extravaganza 20 to 29 April 2022

The best of these will then be selected for the final

Best of the Best – Awards Spectacular 11-12 May 2022



Organisers of the International Best Practice Competition (& Organisational-Wide Innovation Award) are the Centre for Organisational Excellence Research and BPIR.com with key partners being the Abu Dhabi Chamber of Commerce and supported by many Global Benchmarking Network members (many of which have

their own national best practice competition). Organisers of the Global Benchmarking Award are the Global Benchmarking Network.

About the author:



With his Ph.D. in Total Quality Management, Robin Mann, our Chairman & Director for Benchmarking Knowledge, leads the GBN to thrive for its new Vision & Objectives.

Dr Robin Mann is Head of the Centre for Organisational Excellence Research (COER), New Zealand. Robin is passionate about benchmarking and its role in helping organisations to achieve performance excellence. Robin has founded a number of initiatives to support benchmarking such as the Best Practice Improvement Resource (BPIR.com), International Best Practice Competition and the TRADE Best Practice Benchmarking

Methodology. He has facilitated 100's of benchmarking projects with many of these published in books as case studies and leads research programs into business excellence and productivity improvement. Robin has lived in NZ for over 20 years but is originally from the UK where he obtained his PhD in TQM at Liverpool University in 1992.

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Presenting the Global Benchmarking Network



Benchmarking is a relentless strategic discovery process. It is a search for identification, understanding, adaptation, and implementation of solutions leading organizations to far superior performance, which is based on best practices. Therewith, it remains one of the most popular and effective tools used for organizational success.

For nearly two decades, the Global Benchmarking Network (GBN) has played a key part in raising the awareness and use of benchmarking worldwide. Our alliance of leading benchmarking organizations across the globe has agreed to promote benchmarking as an improvement process on an international level. We thereby focus on facilitating the use of benchmarking and sharing of best practices by helping each other and working together to reach a common vision - to be the global hub for benchmarking.

Core Benefits

- **Awareness:** Disseminate globally what is benchmarking, the value of benchmarking and approaches and services that encourage benchmarking
- **Understanding:** Create the premier body of knowledge in benchmarking (its understanding and application)
- **Sharing:** Share experiences, learn from each other and assist in the sharing of best practices globally

Our Values

HELPING EACH OTHER	as evidenced by a willingness to share and assist other members with their requests
WORKING TOGETHER	as evidenced by participation in team or group activities and projects as appropriate and attendance at the annual meeting
PROFESSIONALISM	as evidenced by handling all relations between GBN members and GBN member clients in a respectful and professional manner.
EXCELLENCE	as evidenced by developing expertise in benchmarking, leading or managing benchmarking initiatives and, promoting the role of benchmarking in performance improvement
ETHICAL BEHAVIOUR	as evidenced by following the Benchmarking Code of Conduct and respect for confidentiality

- **Celebrating:** Celebrate the contribution of GBN members and organizations that add new knowledge to the field of best practice sharing and benchmarking

History

In 1993, discussions between the UK Benchmarking Centre, the SPI (USA), the SIQ (Sweden), the IZB (Germany) and the Benchmarking Club Italy came together to evaluate the possibility of a co-operative network. Then in 1994, after debate and agreement, the Global Benchmarking Network (GBN) was officially established by these founding members as a community of legally independent benchmarking centres, with the objective to achieve a consistent understanding of benchmarking as a management method and to promote its worldwide spread and utilization. Dr Robert C. Camp, from the Best Practice Institute in the USA, who invented the benchmarking method, was appointed the first head of the Network.

The AGM in Madrid, Spain, in June 2001, saw the agreement to change the Officers' structure of the GBN. The position of President was established, with Bob Camp elected as the first President, having been the Chairman since 1994. Also, Peter Heisig, from the Information Centre Benchmarking (ICB) in Berlin, was elected Chairman, having been the Vice Chairman since 2000. At the 11th AGM in Harrogate, UK in October 2002 Tom Brock announced his retirement. As a result of this decision, both New Zealand and Germany offered to provide the future GBN Secretariat. A vote by GBN Affiliates resulted in the Secretariat moving to ICB in Berlin.

Our Vision & Mission

GBN Vision

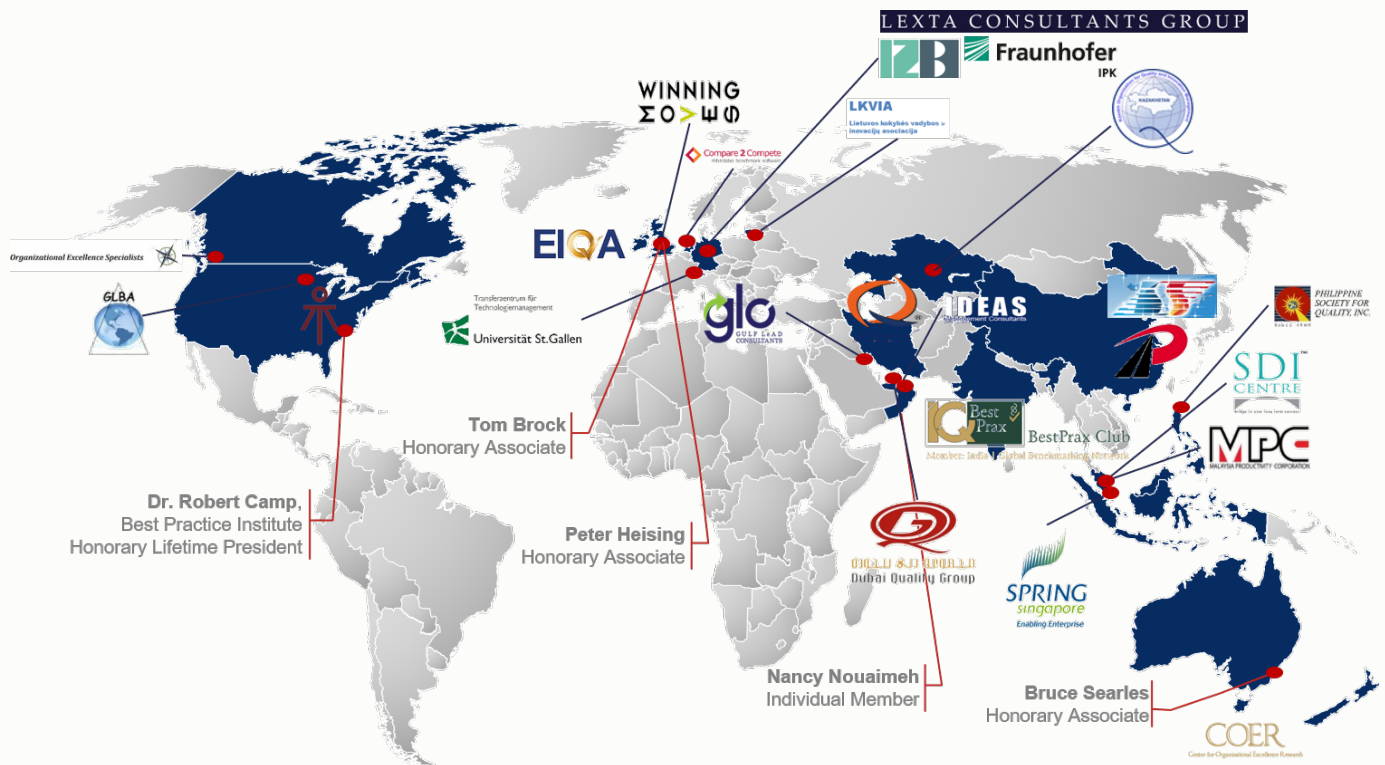


To be the global hub for benchmarking.

GBN Mission



To promote and facilitate the practice of benchmarking.



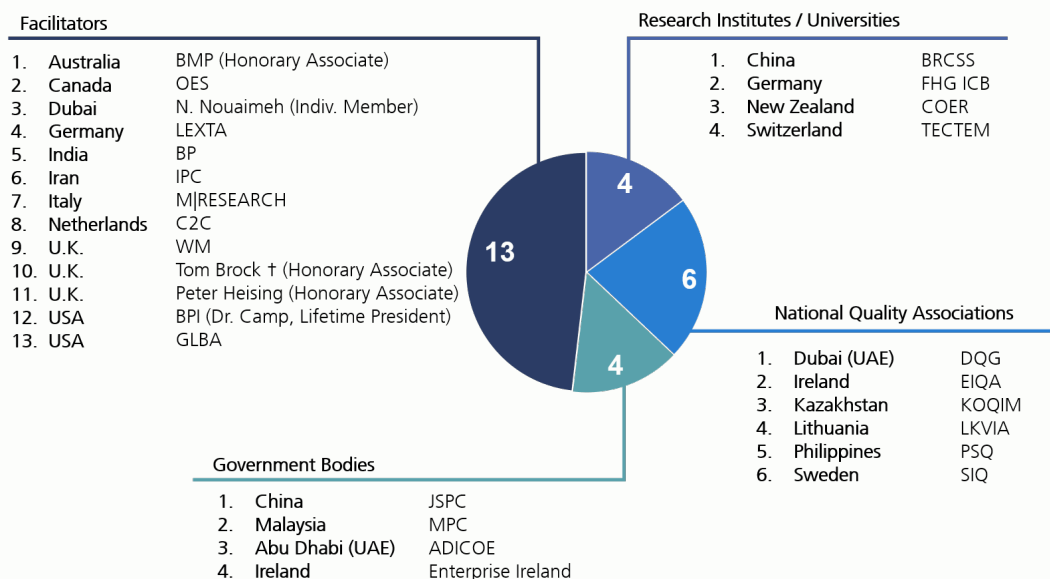
GBN Members around the World

Also during the 2002 Harrogate AGM, the Affiliates agreed to remove from the Memorandum of Understanding the restrictive practice of one centre per country only and to allow as many Centres of Excellence in a country to Affiliate to the GBN, providing the existing Affiliate has no reasonable objections.

Our Presence Around the Globe

With active member representation in nearly 20 Countries - spreading across the European, Asian, and American continents

- GBN's field of actuation is growing. The current membership comprises Research Institutes, Universities, National Quality Associations, Government Bodies as well as Facilitators, whose expertise spawns through diverse and meticulous perspectives in the Benchmarking field. All together form a unique body of knowledge, which is constantly developed through the exchange of an extraordinary multiformity of ideas and competencies.



GBN Membership Structure 2021/22

Past Events & Achievements

12 IBCONS | 27 AGMs | 2 Roadshows | 1 Study Mission | 1 Innovation Summit



3rd IBCON, Hungary 2008



9th IBCON, Dubai, 2015



10th IBCON, Nanjing, 2016



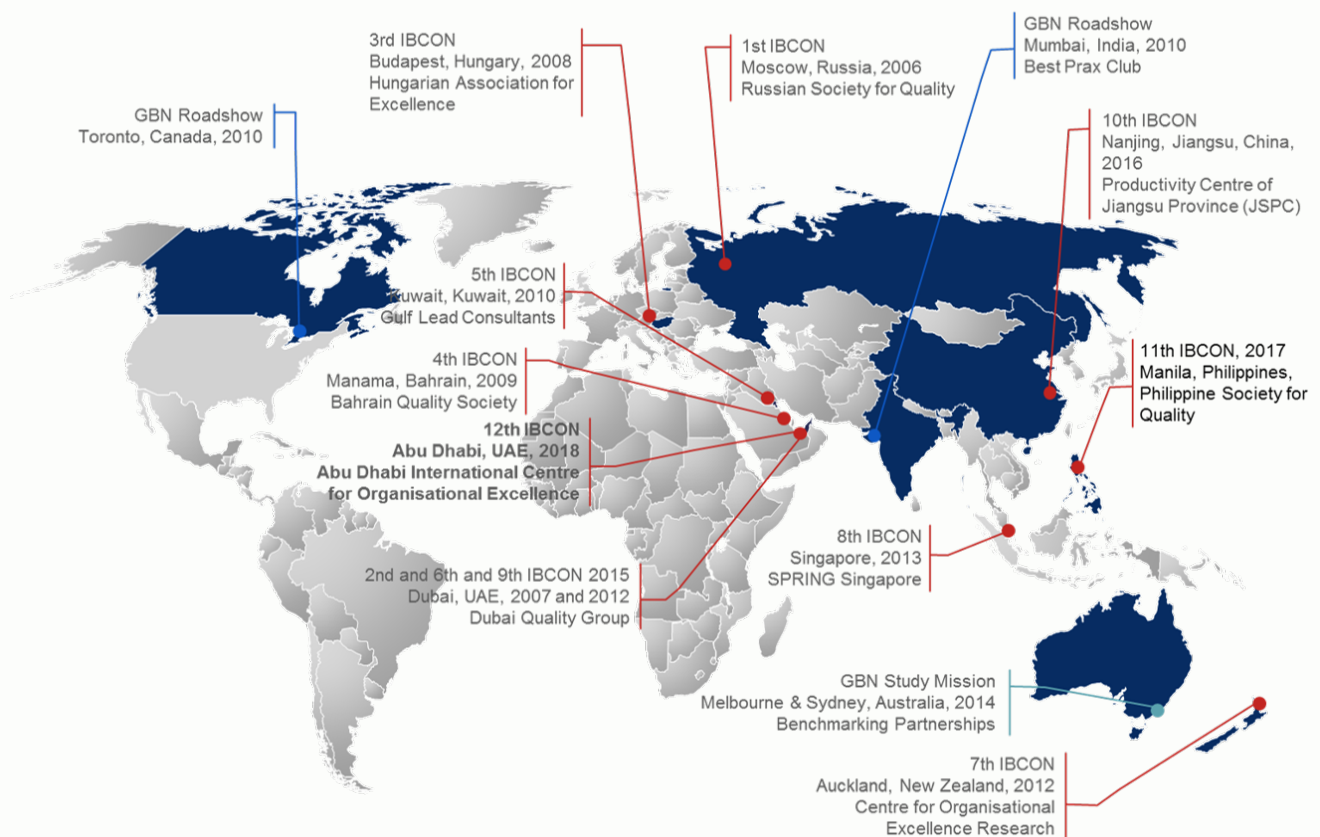
4th IBCON, Bahrain, 2009



8th IBCON, Singapore, 2013



Dr. Camp via Live-Broadcast
10th IBCON, Nanjing, 2016



GBN Events through the Years

Presenting the GBN Board 2022

Introduce Themselves



Robin Mann

Chairman | Director Benchmarking Knowledge

New Zealand, Centre for Organisational Excellence Research (COER)

“To address the major global challenges being faced such as Covid and Climate Change, benchmarking has become a necessity. It is therefore paramount that the GBN is viewed as having the body of knowledge in benchmarking and has a strong united voice to address these challenges. Of key importance is that we have an effective board so that we are in a position to grow our membership and undertake projects of global significance. It is for this reason we recently strengthened the roles and responsibilities of board members to serve our members better, as a result expect to see the GBN’s services and visibility improve in the coming months. I remain passionate, energized, and committed to the GBN – I am always available to discuss benchmarking and help members obtain more value from the GBN.”

Dale Weeks

Vice-Chairman | Director Benchmarking Projects

USA, Global Leadership and Benchmarking Associates (GLBA)

“I am seeking to to serve as a leader on our GBN Board to expand our performance excellence role and impact on our world – to carry us well beyond where we have been since Bob Camp formed our organization in 1994. We need a true GBN renewal and revitalization today to keep us vital and sustainable for the next 10 to 20 years or more. In summary, I offer my full public and private sector leadership background and performance excellence perspectives – to continually lead, build, and grow our GBN so that we truly become the global hub for benchmarking for all nations of our world.”



Florian Kidschun

General Secretary

Germany, Fraunhofer Institute for Production Systems and Design Technology (IPK)

“Being part of this exceptional network and learning from truly dedicated and committed individuals across the globe in today’s ever changing and highly interrelated world is a personal honor to me. What I value most from the GBN are the manifold opportunities it provides for networking and collaboration. As the General Secretary, I am glad to be able to contribute to this unique network and to further develop its success story towards our vision: to be the global hub for benchmarking.”

²Presenting the GBN Board of 2022



Ma. Teresa U. Bagaman

Director Education and Training

Philippines, Center for Innovation and Lifelong Learning, The Medical City

“I believe I can continue to support the advocacies of GBN especially in the areas of Innovation, Benchmarking, Business Intelligence, Strategic Planning and Quality Management. With my never-ending passion to learn, experiment, re-learn and re-write new discoveries and learnings across several fields of knowledge, I can continue to support GBN especially in the Healthcare, Service, Business Process Outsourcing and Manufacturing Industry. Together, with the other GBN board of directors and members, I am excited to explore the endless possibilities on how GBN can actualize its vision to be the Global Hub of Benchmarking.”

Farshid Shokrehodaee

Director Member Engagement

Iran, Intelligent Persian Corporation

“With a regular membership since 2011 I have been an active and committed member of the GBN, attending almost all the annual AGMs in Dubai, Abu Dhabi, India, Singapore and since then introduced multiple entries from the Middle East to different schemes offered by the GBN such as ‘International Benchmarking Award’. I am confident I will make a strong board member for the GBN and that I can make a lot of contribution in terms of content, networking and business opportunities. Therefore, I am happy to announce my participation for the board of directors.”



Presenting the GBN Board of 2022

Tonnis van Dam

Observer

As Executive Master in Finance & Control and specialised in industry benchmarking Tonnis helps industry associations and consultants with industry benchmarking and competitor benchmarking. Tonnis is General Manager and co-owner of Compare to Compete, a worldwide operating performance benchmarking software company. He develops new benchmarking functionality in collaboration with the market to make sure that Compare to Compete's software is the best in class on performance benchmarking software.



Prof. Dr. Holger Kohl

Observer

Prof. Dr. Holger Kohl is Professor for Sustainable Corporate Development at the Technical University of Berlin and Director of the Division Corporate Management at Fraunhofer Institute for Production Systems and Design Technology (IPK), Berlin/Germany. He studied Business Engineering at the Technical University of Berlin and at the Haas School of Business at the University of California, Berkeley. In 1999 Prof. Kohl joined the Division Corporate Management at Fraunhofer IPK as a Senior Researcher. Since then he has initiated and conducted several national and international projects on Knowledge Management, Benchmarking and Business Process Reengineering.

Suresh Lulla

Observer

Suresh Lulla established Qimpro Consultants Private Limited in 1987 as a focused quality management consultancy based on The Juran Trilogy: quality planning, quality control, and quality improvement. In 1992, Mr. Lulla established Qimpro Convention as a culmination of a quality improvement competition, followed by the Qimpro foundation and the BestPrax Club.

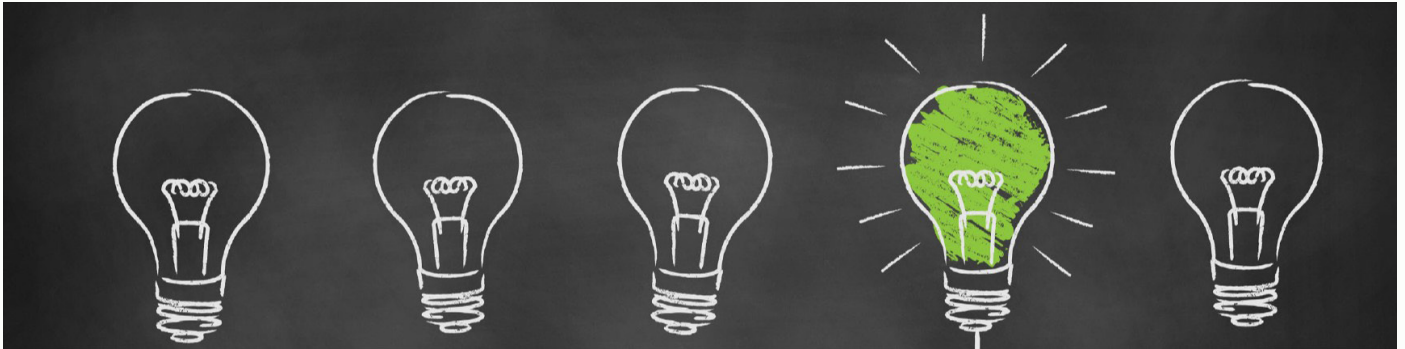


Robert Camp

President Emeritus

Robert C. Camp, world-renowned authority on benchmarking, has a bachelor's degree in civil engineering from Cornell University and an MBA from Cornell University's Johnson School of Management. He also earned a Ph.D. in logistics and operations research from The Pennsylvania State University. He is the author of the best-selling book, Benchmarking: The Search for Industry Best Practices That Lead to Superior Performance. Camp is a member of ASQC. He was responsible for creating the benchmarking program for Xerox's L&D organization. As its first President Robert Camp led the GBN towards its size and importance of today and will continue to advise the Board of Members and the Members of the GBN as a President Emeritus.

Sustainability Benchmarking for medium-sized Companies



Medium-sized companies are in the process of identifying opportunities to contribute to sustainable development, despite the complete lack of or only informally existing requirements. Sustainability benchmarking is a tool that allows these companies a detailed analysis of their sustainability performance.

It is now undisputed that companies, as major players, must and can contribute to sustainable development. However, the majority of small and medium-sized enterprises have so far not been affected by regulations or requirements. On the other hand, these companies in particular are usually firmly rooted in their regional and social environment, which means that they bear a direct responsibility towards their employees and the regional society. Many SMEs are also under real pressure to meet the requirements of their current and potential employees and customers. This is in line with the results of current research and studies (Kraus et al. 2020; Commerzbank AG 2021). There is a clear intrinsic motivation of entrepreneurs to reduce the „footprint“ of their own business activities (Kraus et al. 2020; European Commission 2020; Hypovereinsbank 2021), but there is a lack of tools suitable for SMEs to meet this challenge. In the project „Sustainability Benchmarking for SMEs“, which was funded by the Deutsche Bundesstiftung Umwelt (German Federal Foundation for the Environment) from 2019 to 2021, a sustainability benchmarking system was developed and tested together with the Bundesverband mittelständische Wirtschaft e. V. and 70 companies.

Benchmarking has been discussed in science and practice for more than three decades (Camp 1994; Zhu 2014; Schnupp/

Fritze 2015; Mertins/Anderes 2009; Siebert/Kempf 2012) and is defined as a systematic and continuous process of comparing strategies, processes and products or the performance of one's own company with other companies (Camp 1994). The aim of benchmarking is to create a comparative orientation that is often lacking, especially in small and medium-sized companies (Kohl 2007). The reporting standards of the Global Reporting Initiative recommend that sustainability reports be designed in such a way that they can be compared with past performance, the company's own targets, and, to the extent possible, with the performance of other organizations (GRI 2018). The VDI Guideline 4070 Sustainable Management in small and medium-sized Enterprises also recommends comparing operational sustainability data (VDI Guideline 4070). However, an answer to the question of how such benchmarking with other companies should take place remains open. Previous approaches usually distinguish themselves through an industry focus, a content focus on, for example, overarching or individual ecological aspects (For an overview and example method, see Billmann 2010), the combination of classic management indicators with an addition of sustainability indicators (Kaldschmidt 2009), or the aggregation of sustainability impact (Tasdemir et al. 2020; Kassem/ Trenz 2020). The approach described here, on the other hand, was designed to provide all companies with a holistic analysis and assessment of their sustainability performance. By comparing their performance against suitable indicators, companies are able to analyze their own strengths and weaknesses as well as the resulting performance potential and derive targeted improvement measures.

In exchange with other companies, strategies, options for action and, in some cases, cross-industry good practices for sustainable management can be developed and shared. The approach is based on a holistic sustainability model and a coordinated catalog of key performance indicators that integrate and analyze the topics of sustainable management, ecological compatibility and social responsibility on an equal footing.

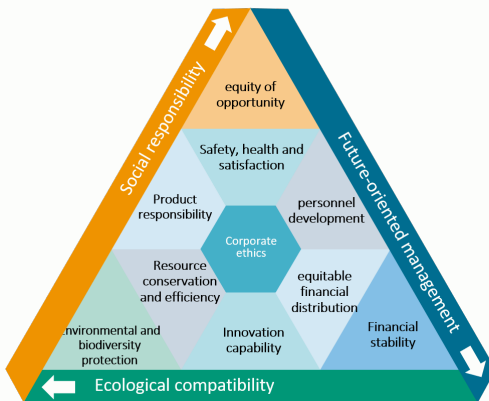
Data Collection and Analysis

The questionnaire for collecting the data was designed in such a way that it can be completed in the companies by the respective topic-specific departments. First, qualitative data on sustainability management is collected. Subsequently, the required data in the areas of energy and resource consumption, emissions, products, personnel and finance are collected. Since many key figures can also be found in common management systems and reporting standards, some companies were able to complete the questionnaire from their existing data in just a few hours without any major effort. Those companies that have not yet set up an environmental or sustainability controlling system are required to collect the data for the first time. In principle, however, the effort required was kept within reasonable limits by the project-based support. The majority of the companies without a comparable controlling system used the project as a prelude to a corresponding introduction.

Company Comparison

Companies are compared within their own industry, usually at the level of the lowest breakdown of the classification of

INTEGRATED SUSTAINABILITY MODEL



Ethical business practices as a basis for sustainable management

Future-oriented management

- Financial stability
- Innovation capability
- Equitable financial distribution

Ecological compatibility

- Environmental and biodiversity protection
- Resource conservation and efficiency
- Product responsibility

Social responsibility

- Equity of opportunity
- Safety, health and employee satisfaction
- Personnel development

economic activities (European Commission 2008), since only at this level of detail can comparability of economic or industrial activity be assumed. In this context, it is important that the companies compared are distinct units with a clear main activity. In contrast to other systems such as EMAS, individual sites can therefore only be considered if all the required data can also be attributed to the site, which can often be a problem, particularly in the case of financial data.

The data collected from the companies is first checked for plausibility and consistency using visual data analysis and statistical methods. In case of doubt, incorrect data can thus be identified and re-

checked to ensure the consistency of the data and thus the accuracy of the analysis results. External data from sustainability and environmental reports were collected and processed in order to build up a broad comparative database. Multicriteria filtering is used to compile comparison groups for the respective companies, which, in addition to industry affiliation, also allows the company size parameters to be narrowed down, for example. Visual data analysis techniques are used to evaluate the comparison results and, in some cases, aggregated evaluation graphics are created for the reports. The central figure for the performance evaluation of the respective key figures are non-linearly plotted bar charts are used, as shown in the

figure as an example is shown.

In the design of the benchmarking report, particular special focus was placed on the introduction to the subject matter, analysis and interpretation. In this way, the companies receive very comprehensive benchmarking reports. In addition to visual analyses for the chapters, fields of action and key figures, relevance descriptions and interpretation notes are included.

Results and Outlook

The results of the benchmarking are intended to support the development of a sustainability strategy and goals, as well as the derivation of concrete measures to achieve the goals. By looking outward, both the company's own position in the corporate environment and existing performance potential can be identified. The results of the project contribute significantly to the understanding of the impact and the potential of medium-sized companies to operate more sustainably. Exemplary for the impact analysis, the project data supports the assumption that small and medium-sized enterprises individually have lower environmental impacts than large companies, but that these impacts are significant in aggregate (Hillary 2017; Dey et al. 2019). However, even the

BENCHMARKING SYSTEM

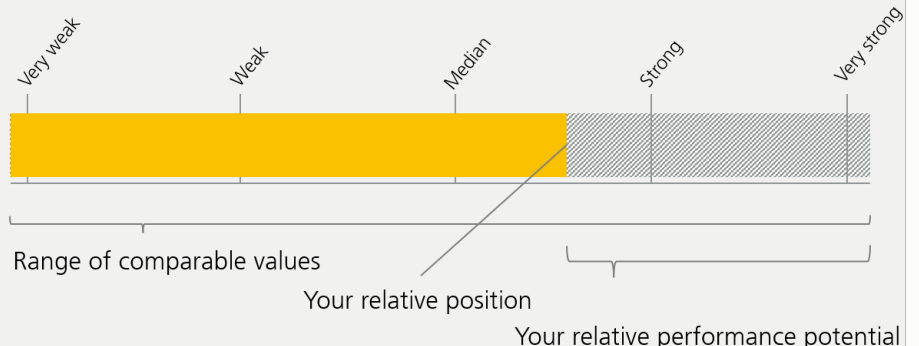
Measure

Compare

Analyze

Share of renewable energies [%]

$$\frac{\text{Consumption of renewable energy [kWh]}}{\text{Total energy consumption [kWh]}}$$



500 data sets available through the project are insufficient to make an estimate of the environmental impact of small and medium-sized enterprises.

From the data analysis and interpretation discussions with the companies, it is possible to determine, on the one hand, the potential for reducing the environmental impact and, on the other hand, the motivation and a high level of commitment to environmental protection in the measures already implemented and planned. A total of 60 good practices from the companies were recorded and discussed. Many companies took the benchmarking report as a starting point for further activities. These include, for example the development of a sustainability strategy, transfer of the results into a materiality analysis, integration into a sustainability report. However, the most important project result is directly related to the motivation of the companies. Previously inexperienced companies were introduced to the topic of sustainable management, while companies that were already committed were able to gain new perspectives and new confirmation of their goals and courses of action.

Interested organizations have the opportunity to carry out a shortened form of the benchmarking on the project website and thus get a concrete impression [1]. The minimal version corresponds to the developed methodology, but is limited to nine result key figures and allows a comparison with manufacturing, service and trading companies. The benchmarking system will continue to be operated after the end of the project. Interested companies therefore still have the opportunity to support the optimization of the system and to receive an individual benchmarking report.

Note

[1] Website of the project: <https://nachhaltigkeitsbenchmarking.ipk.fraunhofer.de/>

References

The bibliography is available online in the article in our issue archive <https://www.oekologisches-wirtschaften.de>.

About the author:



The guest article offered above was a kindly contribution by the distinguished researcher Mila Galeitzke of Fraunhofer IPK Berlin.

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Mila Galeitzke is a research associate at the Fraunhofer Institute for Production Systems and Design Technology (IPK), where he heads the Information Center Benchmarking. His research focus includes sustainable production technology and sustainability and climate protection management as well as of visual data analysis.

Our Global STEM Education Dashboard: Saving Our Next Generation and Our Planet.

A. Our United States STEM Education Dilemma: Modest STEM Skill Improvement Over 20 Years.

According to the National Science Board's Science and Engineering Indicators 2018, Americans' basic STEM skills have modestly improved over the past two decades but continue to lag behind many other countries. According to the Indicators, from 2006–2015, American 15-year-olds still tended to score below the international average in mathematics skills, and at or slightly above the international average in science skills. Recent data from a test commonly taken by college-bound high school students found that only 20% are ready for courses typically required for a STEM major. Other countries are doing a better job preparing their students: The Indicators show that in the past 15 years, India and China have outpaced the United States in the number of science and engineering (S&E) bachelor's degrees conferred. Together, these two countries have produced almost half of the total degrees, with India at 25% and China at 22% of the global total. By comparison, American S&E bachelor's degrees comprised only 10% of the global total, while the demand from U.S. employers for graduates with STEM degrees continues to grow. See this article as well from earlier in 2019:

<https://americanaffairsjournal.org/2019/02/americas-stem-crisis-threatens-our-national-security/>

Despite the value and importance of STEM skills, not all Americans have equal access to STEM education or are equally represented in STEM fields. Women, persons with disabilities, and three racial and ethnic groups—Blacks or African Americans, Hispanics or Latinos, and American Indians or Alaska Natives—are significantly underrepresented in S&E education and employment. In a nutshell, there can be no doubt that STEM education continues to be a significant priority for the United States as a whole and for our State of Minnesota separately.

B. Who Is Doing What Now? A Constellation of Organizations – No Single Point of



GLBA

GLOBAL LEADERSHIP AND
BENCHMARKING ASSOCIATES

Contact for State-Wide and Global STEM Progress.

The American and State of Minnesota STEM enterprise is composed of a constellation of public and private sector organizations providing education and training in myriad ways and conducting research and development (R&D) across all sectors of the economy. STEM education and training occurs from pre-kindergarten to high school (preK-12); both in school and after school; from undergraduate to post-doctoral studies; and through technical education, internships, apprenticeships, community colleges, and retraining programs. Although preK-12 education in the United States is primarily a State, local, and Tribal responsibility, the Federal Government plays an important role in fostering educational excellence, including supporting and disseminating the latest discoveries on what works in teaching and learning and facilitating equal access. Federal agencies support education and workforce development programs and sustain the national R&D enterprise through ongoing support of post-secondary education and R&D, including R&D that captures the imagination of the public and inspires the next generation of STEM learners.

In the State of Minnesota more directly, there are an equal number of similar organizations providing STEM education and training at various levels, from Pre-K, through our K-12 education system, our post-secondary education system and beyond at the industry and business community levels. A quick google search will yield 15-50 or more entities that are addressing this area over the last 5 to 10 years or more.

C. Our Current State-Wide STEM Metrics Dilemma: "That Used to Be Us."

No single organizational "home" is the "final source" for all Minnesotans to track, on both a strategic and tactical level, what progress we are making toward our STEM vision as a state. Stated another way, to effectively compete in a highly competitive global world, we need a STEM Metrics Tracking System similar to what exists in other states and nations. This State of Minnesota business initiative is focused directly on this broad, strategic state-wide STEM performance metrics tracking dilemma. We are behind many other jurisdictions across the world in STEM progress and we need to "Jump Start Minnesota, the United States and Our Planet" to catch up and surpass those already on this performance excellence STEM measurement path. It is driven by the adage attributed to Peter Drucker: "If you can't measure it, you can't manage it." Or, as Tom Friedman, columnist for the New York Times wrote a few years ago as a title of a book: "That Used to Be Us." We are behind many other global locations in establishing a clear vision for our STEM future as a state, as a nation, and globally.

D. The Solution: Our Global STEM Education Dashboard Initiative

1. Purpose – The broad intended purpose of this initiative is to implement a full STEM ROI and Performance Metrics Dashboard with Global Benchmarking Comparisons. Be a broad community partner in the development of a comprehensive STEM ROI and performance metrics dashboard.

2. Scope – The strategic focus and scope

will be on the impact this state-wide effort is having on education and business outcomes in our state on a global scale. Included will be comparative benchmarks with other regions and nations world-wide. For example, STEM progress comparisons with the major economies of world, such as China, India, Europe, and beyond will be a vital part of this metrics dashboard.

3. Objective - To deliver a fully accessible state-wide and national dashboard of STEM education performance for all levels of our education system, to include the impacts of post education employment and business training endeavors.

E. Our Dashboard Prototype: What It Includes – Our Select Few Metrics

→ K-12 Education System Customer (at the local, county, and state levels) – Log-In Steps – Student, Parent, Teacher, Principal, Superintendent, or State Agency Head or the Governor.

→ Choose one or more of *the following “strategic 6” K-12 metrics* you would like to examine for your on-line STEM dashboard analysis:

K-12 Global STEM Education Dashboard Strategic 6 Metrics

1. % and number of graduating seniors with a degree or certificate in one or more STEM fields, with global benchmarking comparisons (highest level outcome)
2. % and number of graduating seniors with a degree or certificate in one or more STEM fields, with global benchmarking comparisons (highest level outcome)
3. % and number of graduating seniors completing 4 or more years of math and 3 or more years of science or technology, with global benchmarking comparisons.
4. % and number of graduating seniors who intend to major in a STEM field in college.

5. % and number of in-school students meeting or exceeding kindergarten, grades 3-8, and grades 9-12 state-wide standards, with global benchmarking comparisons using PISA/OECD or similar global STEM literacy assessments. (Our state-wide rankings on these PISA or similar tests). PISA - PISA (oecd.org)

6. % and number of senior or junior students earning a passing grade on pre-college admissions tests – AP exams, SAT exams, ACT exams, with global benchmarking comparisons, as applicable.

7. % and number of highly qualified, skilled STEM teachers in all grades, with global benchmarking comparisons.

→ Final Displayed Screen – The business results on each of the selected above metrics, similar to comparative STEM (New Jersey, State of Washington, State of Mass., etc.) and Covid-19 State-wide dashboards that exist today

→ Post-Secondary Higher Education System - all college and university levels - Student, College Instructor/Professor, Deans, Senior Education Leaders/Administrators, Presidents, Boards of Regents/Trustees, Legislators, Agency Heads, Governors.

→ On the overall State of Minnesota Map, click on the exact community college, college, university you would like to explore – choose from a drop-down menu or list, including one for the state as a whole, for all post-secondary educational institutions.

→ Within each institution selected, choose which exact sub-unit or STEM major would like to see (e.g., within the College of Science and Engineering, College of Liberal Arts, at the U of Minnesota)? Choose from a drop-down menu of all subunits/ departments in that college or university.

→ Within each sub-unit or STEM major, choose one or more of the following “strategic 4”. Higher Education metrics you would like to examine for your on-line

STEM dashboard analysis:

Higher Education STEM Education Dashboard Strategic 4 Metrics

1. % and number of graduating seniors with a degree or certificate in one or more STEM fields, with global benchmarking comparisons (highest level outcome).

2. % and number of graduating seniors completing 2 or more years of math and 3 or more years of science, engineering, or technology, with global benchmarking comparisons.

3. % and number of graduating seniors who intend to major in a STEM field in graduate school, for masters or PhD or Medical degrees.

4. % and number of graduating seniors meeting or exceeding OECD or other proven global STEM literacy and Education Outcomes work preparation assessments. See these definitions for more detail:

→ VALUE rubrics provide needed tools to assess students’ own authentic work, produced across students’ diverse learning pathways, fields of study and institutions, to determine whether and how well students are meeting graduation level achievement in learning outcomes that both employers and faculty consider essential. <https://www.aacu.org/value>

→ Final Displayed Screen – The business results on each of the selected above metrics, similar to comparative Covid-19 State-wide dashboards that exist today.

F. Our Call to Action: How and When You Can Become Involved.

If any of you as members of our Global Benchmarking Network and beyond have an explicit interest in STEM learning world-wide, I invite you to attend a 45-minute online session to introduce you to our “Coalition of the Willing” Initiative for our broader Global STEM Education Dashboard Toolkit and Community of Practice endeavor.

Why build our STEM Coalition of the Willing Now?

I believe we need to “Jump Start Our Planet” to substantially accelerate our collective and collaborative performance excellence STEM education measurement progress. Or, as stated frequently these days, given our Climate crisis for all of us, this is another “Sputnik moment” for our entire planet in 2021. The world beckons for our greater STEM education leadership.

Today's Question:

Are you willing to commit to being an early adopter partner and champion in building our „Coalition of the Willing“ in support of our national/global STEM dashboard endeavor to permanently change this disturbing and worrisome global trend for our state and our country, your country, and our planet?

Your Initial Commitment:

45 minutes in which we present our Global STEM Education Metrics Toolkit. This toolkit is designed similar to what exists today regarding Covid -19 health data on a global scale. Our in-house team has built

a unique dashboard using only open resources of local, national, and global data applicable to STEM education. We will present this prototype during our introductory “Coalition of the Willing” meetings during November and December of this year.

Your expected follow-up Commitment:

Just 1 hour per month via our globally focused best practice sharing webinar sessions which will be an integral part of our continuing global Community of Practice (CoP). Other STEM leadership invitees will include State of Minnesota Governor Tim Walz, our State of Minnesota Commissioner of Education, senior leadership from the Federal Reserve Bank of Minneapolis (Neel Kashkari), CEOs from Medtronic, Boston Scientific, 3M Corporation, Medical Alley, the Global Wellness Alliance, the Wilder Foundation, along with selected leaders from the University of Minnesota's College of Science and Engineering, The Science Museum of Minnesota, and beyond. Please join your peers in our global science community during this important on-line session as we move forward. I look forward to hearing back from many of you that would like to join this global initiative and community of

practice. By investing your time, your ideas, and your commitment to this initiative over the coming months and years, you will become one of a select few local, state, and national champions that will directly impact the educational system in your own backyard. You are welcome to call or schedule an on-line Zoom or similar session with me as well at any point to discuss further. To paraphrase a quote from John F. Kennedy, President of the United States in the 1960's: Ask not what your planet can do for you, ask what you can do for your planet.” This Coalition of the Willing is your opportunity to save our planet in a lasting and sustainable way on a global scale. Come and join us. Stay safe and healthy.

About the author:



Dale F. Weeks, CEO of GLBA, holds the position as Vice-Chairman & Director for Benchmarking Projects as Board Member of the GBN.

He is President of the Global Leadership and Benchmarking Associates (GLBA), a consulting firm focused on delivering performance excellence and global benchmarking management services to both the public and private sectors. For 20+ years, Dale also led major private sector change initiatives in Marketing, Information Systems, and Consulting capacities for Con-

trol Data Corporation, General Mills, and Xerox, where he was instrumental in producing \$50+ million in Sales Revenue. Dale has continually shared his innovative ideas on performance excellence and benchmarking as a speaker at 50+ globally focused conferences, holds a B.S. degree in Mathematics (St. Lawrence University), and an M.B.A. degree in Finance (University of Minnesota).

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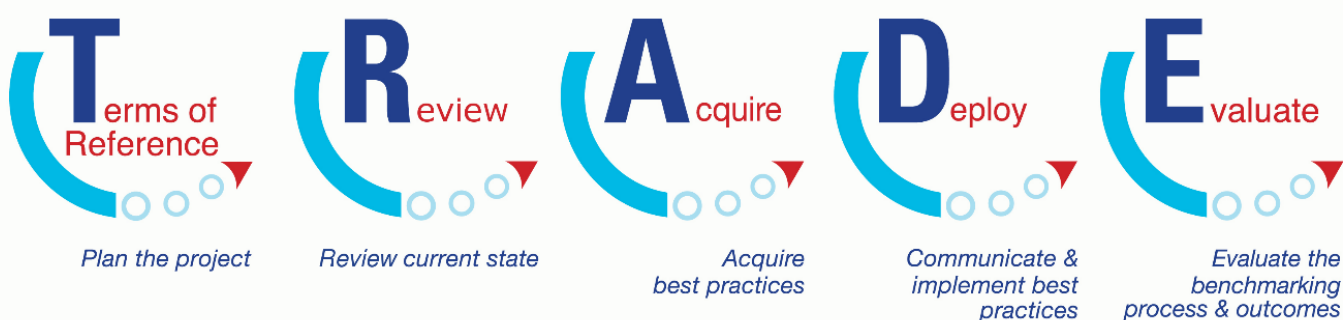
2021

The book *[Achieving Performance Excellence Through Benchmarking and Organisational Learning](#)* is a joint publication by the Dubai Government Excellence Program and the Centre for Organisational Excellence Research (COER).

The book describes 10 TRADE Best Practice Benchmarking projects that were undertaken as part of DGEP's 3rd Cycle of Dubai We Learn. The name of "TRADE" symbolises the importance of forming benchmarking partnerships with the intent of "trading information and knowledge" between organisations. Benchmarking should not be seen as a one-way

exchange of information. It should be mutually beneficial so that relationships can be maintained and grow so that the partners can learn from each other again when the need arises.

The government entities that participated and the key achievements from each project are summarized below:



GOVERNMENT ENTITIES	PROJECT TITLE	KEY ACHIEVEMENTS OF THE DUBAI WE LEARN PROJECTS
<i>Community Development Authority</i>	Enabling Happiness	32 Quick Wins to transform highly disengaged CDA employees to a happier workforce. 0% happiness initiatives (2018) to 85% staff engagement (2019) in the various programs.
<i>Dubai Corporation for Ambulance Services</i>	Moonshot: Is Where the Magic Happens	The development and sign off of a Blueprint for a Moonshot Innovation Ecosystem by DCAS' senior executives with key components implemented (innovation strategy/charter, organisational structure, ideas management process, innovation shaping tool and leadership engagement) with full maturity expected by Dec 2021.
<i>Dubai Electricity and Water Authority</i>	EV Green Charger 2.0	DEWA is taking the lead in developing a unified cable system, creating a niche in the international market in EV adoption, branding DEWA as a pioneer within the UAE and GCC in designing of a customised EV fast charger with smart solutions.
<i>Dubai Health Authority</i>	Dubai Heart Safe City	Development and initial deployment of a Short-term Roadmap (2019-20) and Long-term Roadmap (2021-25) with an expectation that when fully deployed approx. 800 lives per annum will be saved through achieving a 65% or greater survival rate from Out-of-hospital Cardiac Arrest.
<i>Dubai Land Department</i>	Smart Property Valuation	The smart property valuation system is the first in the international real estate market. The development of a predictive model based on Artificial Intelligence and Machine Learning will generate a valuation certificate in 15 secs instead of 3 days.
<i>Dubai Municipality</i>	Digital Transformation of Contracts	A complete reengineering and 100% digitization of the service contract cycle, resulting in a reduced contract completion time from an average of 210 days (2018) to 24 days (December 2019), enabling 380 contracts to be completed in 2019 from 97 in 2018.
<i>Dubai Police HQ</i>	Airport Secure Luggage (Safe Bags)	The project saved the airline companies approx. AED 67 million (and projected to be in excess of AED 100 million per year in future) based on the reduction in the number of passengers being summoned for security inspections due to improvements in identifying safe checked-in bags and improved procedures.
<i>Dubai Small and Medium Enterprises</i>	Improving Entrepreneurs' start-up guidance and support services	The guidance service process cycle time to complete an application reduced from 4.25 days to 1 day saving employee and customer time equivalent to AED 10,300,000 up to June 2020. Employee satisfaction with the new process increased from 30% to 88%.
<i>General Directorate of Residency and Foreigners Affairs</i>	Cooperative Integrated System	Integration of the departments of Strategy, Innovation, PMO, Operations, and Excellence under the Sector of Quality and Excellence and the development of a CIS Master Plan for full implementation in 2020 with performance measures in place.
<i>Roads and Transport Authority</i>	Return on Innovation for Agile Innovation Journey	RTA is the first to develop within Dubai Government a systematic tool to measure non-financial ROI - applicable to any private or governmental organization.

Some of the comments on the value of the TRADE methodology were:

- The TRADE methodology is a very logical structured approach to enable project teams to conduct benchmarking using evidence-based tools. The completion of each of the five stages of TRADE is critical to the success of project outcomes. (DCAS)
- The TRADE methodology, resources and templates guided the team to complete the benchmarking project. For example, each stage had a plan on how to complete the stage with essential information such as the assignment of the task, planned start date, the actual one, and the outcomes from each stage. Also, provided were templates on how to communicate with benchmarking partners and seek their help with thank you letters too; shows how professional the methodology is! (Dubai Municipality)
- The benchmarking methodology has been very effective in allowing us to ask ourselves the right questions at different stages of the methodology. We have achieved the required improvements without investments in purchasing additional

tools or equipment, building new infrastructure, or hiring more technicians. We utilized existing resources. (Dubai Police)

- We found the TRADE methodology and structure so useful, therefore; we initiated the same to improve another service in Dubai SME (Government Procurement Program). (Dubai SME)
- We have adopted the TRADE methodology as the reference tool to conduct and implement its benchmarking process for all projects, initiatives, and performance indicators. (Roads and Transport Authority)

About the author:



With his Ph.D. in Total Quality Management, our Chairman Robin Mann, leads the GBN to thrive for its new Vision & Objectives.

Dr Robin Mann is Head of the Centre for Organisational Excellence Research (COER), New Zealand. Robin is passionate about benchmarking and its role in helping organisations to achieve performance excellence. Robin has founded a number of initiatives to support benchmarking such as the Best Practice Improvement Resource (BPIR.com), International Best Practice Competition and the TRADE Best Practice Benchmarking Methodology.

He has facilitated 100's of benchmarking projects with many of these published in books as case studies and leads research programs into business excellence and productivity improvement. Robin has lived in NZ for over 20 years but is originally from the UK where he obtained his PhD in TQM at Liverpool University in 1992.

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The Passing of Professor Mohamed Zairi – A Leader in Benchmarking and Excellence



It is with great sadness that we report the passing of Professor Mohamed Zairi after a spirited fight against Covid. Mohamed died aged 65.

Professor Mohamed Zairi has been a friend and an inspiration to many of us in the Global Benchmarking Network. Mohamed born in Algeria undertook his academic studies in the UK and became acknowledged worldwide for his contributions to Total Quality Management,

Business Excellence and Benchmarking. In later years his home became the United Arab Emirates where he made outstanding contributions to the country through serving as a Senior Adviser to the Prime Minister's Office where he helped to develop the Government Excellence Model and chaired many Government Excellence Awards.

Mohamed has been a thought leader in the quality profession for over 35 years. His strength has been to have a broad-based view of quality and a deep understanding of current business trends and challenges from which he can prescribe relevant and often innovative quality-based solutions.

Mohamed was one of the pioneers of the benchmarking concept, writing 5 books in this field including one of the first books on benchmarking applications. Mohamed founded the Benchmarking International Journal which is now in its 28th volume. Mohamed was appointed as the first Professor in Best Practice Management globally. Between 1994-95, Mohamed helped set up the European Best Practice Benchmarking Award, for which he was appointed as Chairman.

Indeed, Mohamed was a great inspira-

tion to Dr. Robin Mann when he was undertaking his PhD on Total Quality Management between 1988 and 1992: "I could always count on Mohamed being at the forefront of the field and sharing new concepts and techniques for business improvement."

His early books and practitioner guidelines on TQM-based Performance Measurement: Practical Guidelines and Competitive Benchmarking: An Executive Guide were must reads and made the quality profession an exciting profession to study and work in – quality was placed as central to business success.

Since those early days Mohamed has written over 70 books many of which have been ground-breaking and this continued to the very end with Mohamed's book "Is Quality the Silver Lining to our Current and Future Crises?" where he discusses the role of quality in managing the Covid Pandemic – the first author to link "quality" to the Covid Pandemic. For an overview of this book watch this [inspiring video](#).



The Passing of Professor Mohamed Zairi – A Leader in Benchmarking and Excellence



About Prof. Zairi



Recognized as a Guru and International Expert in the field of Total Quality and Excellence Management. Professor Zairi has influenced Quality Management Thinking for over 35 years. He was one of the pioneers of the Benchmarking concept, has published 5 books in this field including the first case study book on benchmarking applications in the World. He is the founder of the Benchmarking International Journal which is now in its 27th volume and the founder of Business Process Management Journal now in its 26th year. He was appointed as the first Professor in Best Practice Management globally. He is the only Academician who has written extensively about the role of Quality in all the 4 Industrial Revolutions. His latest focus is on quality in the digital era, and is one of the originators of the concept of Quality 4.0. His most recent books (7 of them) are all related to Quality 4.0 thinking. His prolific scientific publishing efforts has earned him the second highest Google Citation Index (H-Index) in the field of Quality in the World.

Professor Zairi has published over 70 books and 400 scientific papers. He has been recognized international for his unique contributions. He was the recipient of the Lancaster Medal, the Grant Medal from the American Society of Quality (ASQ), the Ishikawa – Harrington Medal from the Asia Pacific Quality Organization (APQO), the Yoshio Kondo Medal from the International Academy of Quality (IAQ), Lifetime Achievements Medal from the Australian Quality Organization (AQO) and several other international recognitions and awards.

For a list of all Mohamed's books visit the [European Centre for Best Practice Management Publishing House](#) and to learn more about his company visit [Excellence Trilogry](#).

To gain an understanding of Mohamed's importance to the quality world and how he has touched his friends and family with his intelligence, humour, and generosity there are some wonderful testimonials in this [YouTube Video](#).

Read a full review of Mohamed's work at <http://www.excellencetetralogy.com/our-founder/>

Professor Mohamed Zairi you will be greatly missed by all of us at the GBN.

May you rest in peace.

Quality is the answer to all our needs, it protects our life, nourishes our senses, guides our dreams and defines our purpose

Professor Mohamed Zairi, 1956-2021

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