



**Results of the Delphi Online Survey Round 2:
Microeconomic and Working Place Aspects**

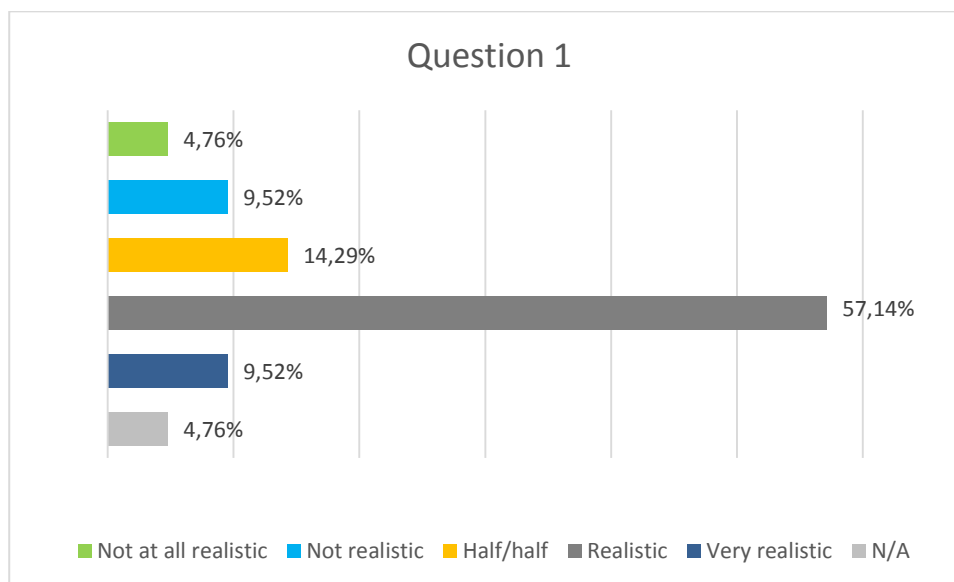
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Employment – yesterday, today and in the future (2030)

Aspects	Yesterday & Today	In the future (2030)
Legal form	Employment relationships dominant	Self-employed and self-employed forms are much more widespread
Vocational or professional choice and change	Choice of a vocation or profession and an employer or working place “for life”, “for lifetime”, for a possibly long period of time.	Multiple, frequent career changes, voluntarily and involuntarily.
Place and form of work	Employment standards, generally defined by the employer, located in the company, in a plant of the employer or in central offices.	Multi-local work, free choice of place of work, knowledge worker; mobile offices, co-working spaces; minimum or no “team presence time”; virtual collaboration in the collective virtual space.
Vocational and further education and training	Most formally before the graduation, then punctual at fixed, delimited times	During the entry into new occupation or new activity, customised and self-controlled, “on-going”, constant learning during working periods, with and without job or activity change.
Characteristics of learning for and on the job	For the most part, linked on given learning time, learning places and educational institutions; aiming at certifications and qualifications; controlled by institutions.	Regardless of time, place and large educational institutions; peer to peer; learning on demand; mobile “on the go”; learning as part of the work, inseparable from work; controlled by the individual.

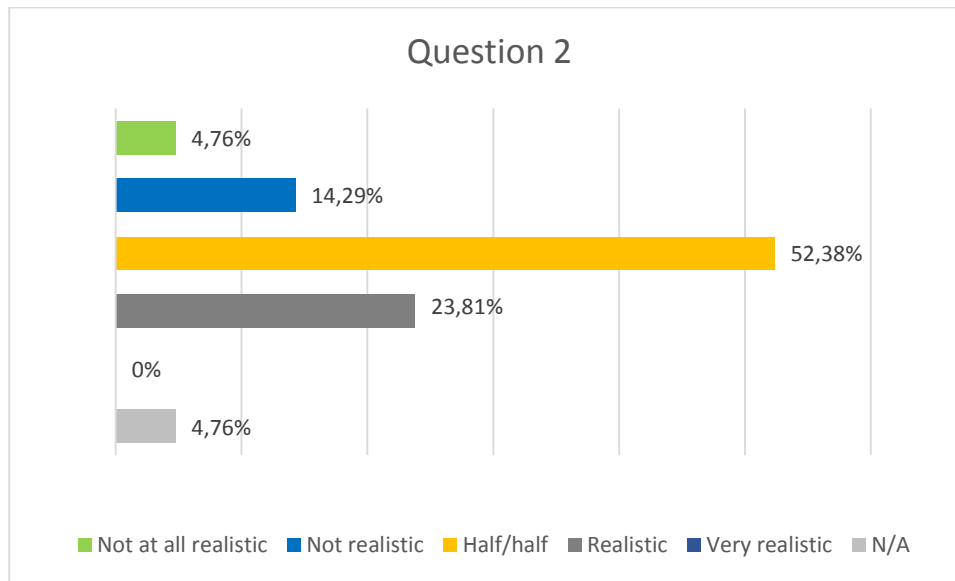
Source: BERTELSMANN STIFTUNG (2016): 2050. Die Zukunft der Arbeit, Delphi-Studie, Seite 16;
leicht abgeändert durch Smart Factory

Question 1 Two thirds of the persons asked considered the credibility and reliability of the forecast for 2030 to be „realistic“ (57,1%) or „very realistic“ (9,52%).



Delphi Online Survey | Round 2 Microeconomic and Working Place Aspects

Question 2 In relation to the place of work and the company level the prognoses were considered to be less representative. Still most of the participants considered the prognoses to be „half/half realistic“ (52,38%) or „realistic“ (23,81%).



Frage 4 Due to digitization and technologization, changes are expected in all departments of the company within the next 10 to 15 years (perspective 2030). Especially in the area of information technology and communication changes of 52,63% are estimated. Almost 90% the participants of the survey anticipate „many“ or „numerous changes“.

	Very few changes (1)	Few changes (2)	Some changes (3)	Many changes (4)	Numerous changes (5)	N/A (6)
For the general management and administration area in the enterprise:	0,00% 0	5,26% 1	31,58% 6	42,11% 8	15,79% 3	5,26% 1
For the production of goods or services area in the enterprise:	0,00% 0	10,53% 2	15,79% 3	47,37% 9	21,05% 4	5,26% 1
For the distribution & customer services area in the enterprise:	0,00% 0	0,00% 0	26,32% 5	36,84% 7	31,58% 6	5,26% 1
For the research & development area in the enterprise:	0,00% 0	0,00% 0	10,53% 2	36,84% 7	47,37% 9	5,26% 1
For the information technology and communication area in the enterprise	0,00% 0	0,00% 0	5,26% 1	36,84% 7	52,63% 10	5,26% 1
For the networking of the different areas in the enterprise:	0,00% 0	0,00% 0	15,79% 3	42,11% 7	36,84% 8	5,26% 1

Delphi Online Survey | Round 2 Microeconomic and Working Place Aspects

Question 5 Concerning the levels of qualification and employment, the majority expect many and numerous changes, especially for highly qualified workers and employees.

	Very few changes (1)	Few changes (2)	Some changes (3)	Many changes (4)	Numerous changes (5)	N/A (6)
For the highly qualified workers and employees in the enterprise:	0,00% 0	5,56% 1	22,22% 4	38,89 7	27,78% 5	5,56% 1
For the skilled workers and employees in the enterprise:	0,00% 0	0,00% 0	27,78% 5	61,11 11	5,56 1	5,56% 1
For the unskilled workers and employees in the enterprise:	5,56 1	11,11% 2	27,78% 5	22,22% 4	27,78% 5	5,56% 1

Question 7 In all areas, a significant need for training and qualification measures in the workplace is assumed, in particular in the area of "technical and work-related education measures", as well as "education and training measures in relation to personnel competence and problem-solving".

	Strong loss of importance (1)	Loss of importance (2)	Rather balanced (3)	Growth of importance (4)	Strong growth of importance (5)	N/A
a) Technical and work place related education and training (focusing on technical skills):	0,00% 0	0,00% 0	5,56% 1	55,56% 10	33,33% 6	5,56% 1
b) General and school based education and training (focusing on general and basic skills):	0,00% 0	11,11% 2	5,56% 1	72,22% 13	5,56% 1	5,56% 1
c) Information technology oriented education and training (focusing on IT skills):	0,00% 0	0,00% 0	11,11% 2	16,67% 3	66,67 12	5,56% 1
d) Individual competence and problem oriented education and training (focusing on transversal personal, communication and team skills):	0,00% 0	5,56% 1	0,00% 0	44,44% 8	44,44% 8	5,56% 1

Question 8 Regarding the active participation of employees in the organisation of the work place, aspects like health, work-life-balance as well as data protection will gain significance

	Strong loss of importance (1)	Loss of importance (2)	Rather balanced (3)	Growth of importance (4)	Strong growth of importance (5)	N/A
a) Work Organiation:	0,00% 0	0,00% 0	16,67% 3	38,89% 7	38,89% 7	5,56% 1
b) Work safety:	0,00% 0	16,67% 0	22,22% 4	27,78% 5	27,78% 5	5,56% 1
c) Health:	0,00% 0	0,00% 0	11,11% 2	44,44% 8	38,89% 7	5,56% 1
d) Work-life-balance:	0,00% 0	0,00% 0	11,11% 2	27,78% 5	55,56% 10	5,56% 1
e) Data protection and privacy policy at the working place:	0,00% 0	5,56% 1	16,67% 3	16,67% 3	55,56% 10	5,56% 1

Question 9a **Three scenarios:**

Scenario 1: Working Future:

Technological change drives work and employment in the factories: networking, life-long learning, simultaneously creation, loss and relocation of jobs, high productivity and innovation through cooperation and participation.

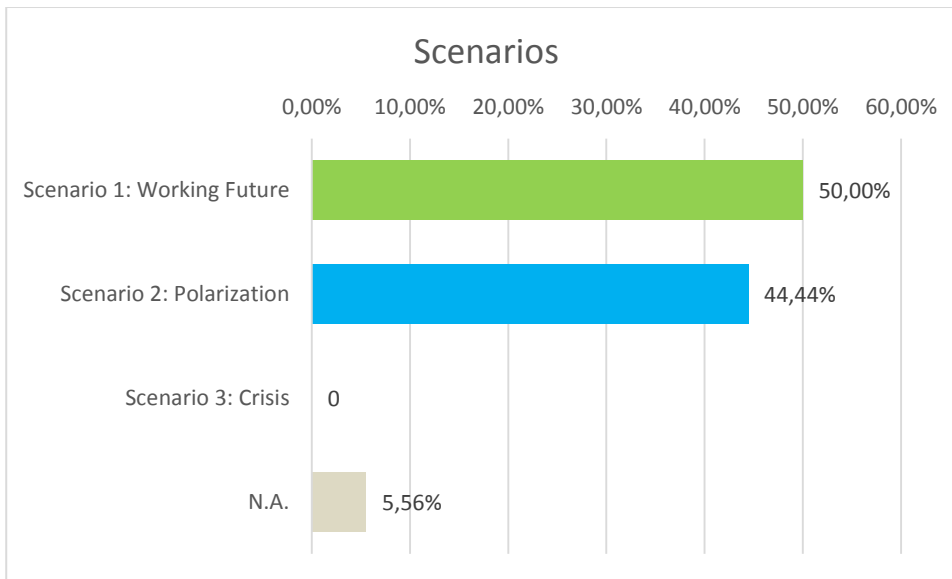
Scenario 2: Polarization

Division of the workforce into two parts: rather permanent staff with quite acceptable working conditions and marginalised and precarious groups as temporary workers and contract workers; strong growth of self-employment, freelance activities, crowd-working and other forms of precarious work; dissolution of the limits of work, work without limits, stress, attack on private and social life by unlimited forms of work; loss of the existence-assuring function of dependent work and (full-time) jobs.

Szenario 3: Crisis

Growth of social risks because of high unemployment, low competitiveness of enterprises. Missing support by the state, conflicts and competition within enterprises.

Result: **Scenerio 1 and 2** suit best to the working place.



Question 9b) To improve the working place conditions in the future, these two factors were indicated to be the most important ones:

Factor 1: Restriction of precarious forms of employment (subcontracted labour, temporary work, bogus self-employment)

Factor 2: Qualification

Question 9c) The following aspects were indicated as being significant contributions on those micro developments put forward the organisations of the participants.

Qualification, Job security, job-securing tariff agreements, communication and a critical attitude towards subcontracted labour and temporary work.