ECONOMY IN TRANSITION: ARE WE PREPARED?

EU Economics of 2030 and Beyond

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DEDICATION

The Resolutions are dedicated by the Council Committee to citizens and residents on the European continent who are living amidst the startling transition into a 21st century economy and society. To be introduced remain public policies that prepare the EU region's inhabitants for work and decent conditions in a future era autonomous industrial economy.

The Resolution Statements are not prescriptive. Each Statement presents an aspect of public life for which some measure of preparation is vital to an orderly transition and secure the benefits for society from era-shaping technology. Throughout Europe the brunt will vary as presence of autonomous and artificial intelligent productive resources adapt timely to regional industrial and social conditions. Discomfort is natural with the evolution of the economic structure, and not necessarily a sign that the changes are going too far. The future impact should be anticipated with public policies that merit the advent of economic and societal change underway.

These 21 Resolutions are an **alert** for EU Commission and European Committee of the Regions on awaited preparations for a new era interaction between work and society with pronounced effect on human relationships, livelihood security and personal well-being of one's place in the fabric of the regions' societies. Not addressed, and yet of vital concern, looms the demographic impact from 'fertility collapse' as workforce policies favor female employment over family formation[1].

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FOREWORD—JEFFREY SACHS

The **Council for a Progressive Economy** looks both back and forward in its "reconsideration of a Western society for the 21st century." The Council looks backwards to the 1964 'Declaration of the Triple Revolution', which presciently had cautioned disruptions and public challenges from the gathering industrial reorganization of 'cybernation' – the application of automated machines. It looks forward to 2030 and 2050, this time presciently alerting the public on the scope of a new industrial structure with disruptions from autonomous production based on artificial intelligence, deep machine learning, robotics, and other advances in information technology. The Council calls on policy makers and civil society to prepare for meaningful work and an ethical economy in a new era of social engagement.

The **Council** hits the mark: our political, civil, and scientific institutions should heed the Council's call and respond with a sense of urgency, creativity, and moral purpose.

It is well appreciated that major new technologies cause deep societal change. One can say, in very general terms, that the agricultural revolution led to village life, and the industrial revolution created mass urban society. That the artificial intelligence and digital revolution are also creating deep change is widely accepted. Yet there remains a misplaced complacency about the changes underway: that by their very nature these will benefit society, and that market forces – supply and demand guided by profit motives – will sort out economic outcomes in a broadly salutary way[2]. There are those who point to the famed "Luddite" textile workers of the early 19th century, or to the authors of the Triple Revolution, that fears today are exaggerated, and that worry about adversity from technological change is misplaced.

The **Council** is correct to send a far more accurate, and important message. A new period is emerging in which the advances in autonomous production could expand material wellbeing, leisure, and engagement in more critical human pursuits, but could have major adverse consequences as well. The transformations underway are extensive, likely to reshape the meaning of work in the 21st century. Work-life balance will require new norms and relevant policies for the individual's purposeful participation in democratic civil society.

Was the 1964 'Triple Revolution' alarmist, after all? The answer is certainly 'not'.

The caution on advances of automation happened (and continue). Traditional jobs, especially in farming, mining, and industry, were indeed lost, by the tens of millions in the high-income economies and now in middle-income economies as well. Decent work came to depend on decent education, and increasingly on higher education and specialized vocational training. Successful societies, notably those of northern Europe, have reacted through active labor-market policies, expanded vacation time and shorter working hours, and enhanced public policies to ensure access to higher education and vocational training. In countries where public policies have lagged, including the United States, a great and dangerous social gulf has opened between individuals with college degree, who are better prepared for work in the digital era, and those with a high-school diploma or less, who are exposed to declining living standards, health and longevity, and social status.

The message of the **Council** is that the advancing age of autonomous production can be highly beneficial for society – but only with public policies that anticipate wisely in its development. There is nothing inevitable about society's successful adjustment in an era of deep and transforming technological changes. History records the strife that can accompany a period of disruptive change with high anxieties for individuals across the society. The Council performs a vital public service in offering the public and policy makers a highly perceptive, deeply informed, and ethically based Resolution for our times.

Every age has had man confront events
that marked his distinctly human identity.

PREFACE

"A New Start for Europe"[3] is aired amidst diverse estimations on: impact of autonomous and digital productive processes on the future for jobs; gains from growth; inclusive benefit; and, basis for a 21st century original economy and civil society.

The advance of digital communication, and artificial intelligence, with their data analytics and automated transactional aspects of work have become the hallmark for industrial revitalization in an ardent pursuit of productivity. As authorities ponder preparation for the industrial transition progress, there is increaring realization among the public, and in media accounts, that the European economies will confront dismal disturbance with changes in the pattern of job, income, political, and social polarization. How will conflict and cooperation unify the province of humans and autonomous operatives?

The advent era of industry deployment of autonomous technologies poses ominous public concerns of harm from 'the end of work'[4]. The application of autonomous technologies is manifest in an observable transition of conventional utilization of workforce resources in manufacturing and data transaction industries. While radical technologies have persistantly displaced labor such effects in the past were provisional as requrements for labor adjusted to their new applications. That past pattern of experience now delays assessment and preparation for new era *autonomous* productive resources which, unlike *machines,* operate on their own intelligence.

The RESOLUTIONS foresee a transformative industrial economy in which the demand for human labor resources is specialized but the total requirements for mass *job* employment also vastly contracts. Foreseen is an era of increasing productivity from investment in cybernation and a transition from 19th and 20th century models of organized income wage work in market-based enterprises. In the course of that industry transition unfolding 21st century social conditions present new forms of integrating individuals into social enterprises, communal-type work, and innovative life streams in the commons.

In the course of adjusting, the continent and Western economies also confront a globe in which the 'industrial revolution' spreads to regions with new resources and new markets. China, Japan, and So. Korea are well along into the new industrial era of cybernation and pursue industrial development goals that foresee more than half of their industrial output produced through autonomous means. EU and US confront an Asian market twice their size. More than 2 billion men and women are added to the ranks of industrial producers, trebling the globe's industrial output as these strive to rival Western living standards while trebling the globe's middle class. Asia will constitute 40 percent of the globe's consumer spending.

A future well-fortified European economy and societal order entails full advantage from autonomous and additive manufacturing technologies for its domestic industry to excel in interior markets while yet able to compete in Asian (global) consumer markets. To be devised remain distinct economic principles, measures and tools for new norms during a transformative 'new start' economy, for Europe. Also to be considered is how advancement of data analytics (digital processing) would be beneficial not solely to industrial production, but to diverse fields of human intellection including politics, arts, humanities, and human individual enrichment and satisfaction. Whether a new era autonomous productive order will be beneficial for Europe's inhabitants is **not** a foregone conclusion—public confidence in its advantageous development will depend crucially on how authorities in the public and private sectors are seen to respond to the new conditions. Further clarification is awaited for what are the distinct merited benefits.

The Council is cognizant of diverse EU policy guidance for a new 21st century socio-economic order. The EESC adopted opinion on: “Economy for the Common Good“ presents a statement in principles. Yet to be stated are preparations for an economy and society in which human resources are active in a distinctly new way. While *jobs* may decline, *work* will not. There is ample work to engage man in purposeful and gainful activity while adapting to new forms of civic life in a 21st century society .

There remain to be formulated policies and private institution entitities for directing/chanelling labor resources into market and non-market based work. Also there remains to be manifest the features and benefits anticipated for the territory’s collective workforce, and its inhabitants, from an autonomous industrial economy. To be attended remains a body of economic theory, and applicable institutions, that validate the economic interests of labor resources and civil society in the productivity from ’employment‘ of autonomous resources.

As volatile consequences from a transforming industrial economy transpire there remain yet dim the features and benefits for the territory’s domestic inhabitants, and its collective workforce. There remain to be identified pertinent economic theory and policy as well as applicable civil institutions, that justify state interest and action in preserving opportunities for individuals to find work and to secure vitality of the state’s residents. What is in store for a ready *human* resource base in an industrial era of autonomous productive labor? Awaited are policies affirming the relevance of diverse forms of civil work within society

The Council acknowledges the diverse EU and State policy initiatives, as well as certain novel programs, for inclusive and stable economic performance. (See Reference Section.) “The Europe We Strive For“ with its theme “Transforming Work, Minds and Society“ can serve as initial step toward preparations for the Council RESOLUTION statements.

The **RESOLUTION** accords question the puissance of *preparation.* Awaited remain the relevant economic and social policies for a shared understanding of the *vision* for a formative economy and civil society, poiesis in the city[5]. The leadership act of educating and shaping public opinion remains to be attended.

ECONOMY IN TRANSITION: ARE WE PREPARED?

PART A: SUMMARY

To be attended is an applicable 'Socio-Economic Covenant' outlining intentions for human endeavors, and societal development, from commercial and civil society applications of transformative autonomous technologies. Awaited is preparation of alternative (modernized) industrial and social policies for addressing *distinctly human* competences for worker participation in purposeful activity in an era of autonomous productive organization. The Covenant should address, realistically, the diverse range of human abilities and interests within a society that affords increasing spare-time for their expression and personal fulfilment.

1. Concern is expressed for an under-estimation of the range of economic and social impact from extensive and multiple applications of robot, artificial intelligence, and digital technology toward 2030 and beyond [6].

2. Concern is expressed that EU and member State Officialdom yet cling to policy directives, program initiatives, and human advancement goals, from a conventional fading phase of European industrial and societal organization.

3. Concern is expressed that preparations for reordering institutions befitting to new era civil societies, and felicitous social policies for inhabitants, to contend with the industrial transformation in progress, remain yet largely to be attended.

4. Awaiting preparation are alternative (modernized) industrial and social policies for addressing required competences for worker participation in purposeful activity in an era of autonomous productive organization.

5. The RESOLUTION asserts social innovation, and social enterprises, are vital 21st century functions for human engagement. These forms appear underrated in EU innovation policy[7]. Proposed is the formation of a 'Social Innovation Authority' (beyond the present ESN supported by the EU Program for Employment and Social Innovation) with a mission to accentuate the utilization of autonomous technology for improvement of quality of life within the 'commons'.

Required are well-chosen social policies for inhabitants to contend with the in-progress transformation of the industrial state and its past authority over the application of human resources for private enterprises.

PART A: INTRODUCTION

The prospect of an EU 21st century socio-economic order is a continuum in western civilization development of its own unique well-functioning industrial structure, means for organizing production, and intrinsic market dynamic.

The transition in progress follows a recent two century industrial revolution which created a formidable industrial economy and eventually a modern democratic-capitalist state. The conversion underway, while accelerated by a surge of novel industrial technology, is indeed a steady evolution in the industrial order[8] from the 20th century European economy and society. The trend brings more knowledge, more choice, and more ability for industrial development – it also complicates sharing gains for the territory's inhabitants.

The **RESOLUTION accords** call for a more encompassing, earnest, transparent, assessment of public impact from an era of autonomous industrial productive processes. The far-reaching application of autonomous 'operatives' enables a transformation in which human activity can strive for new forms for personal growth and higher consciousness. Political leadership in realizing visionary economic and social policies will be needed that address clearly, and credibly, means for engaging human resources in gainful, and purposeful, work amidst new opportunities for work-life balance[9]. Necessary is the civil society equivalent of increasing labor productivity.

To be realized is a 21st century period of human development that looks beyond 'market growth' as measure to inhabitant well-being and development and engagement of the territory's human unique resources. Awaited from governing Authorities are new measures for autenticating public gains and prosperity from evolving patterns of: ●industry organization; ●human work and gainful striving; ●economic precepts and market institutions; and, ●fairness and civil ethical norms.

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The EU Commission has recently proposed a European Pillar of Social Rights[10] proclaiming social standards for a developing economy and inclusive society. In the considering European Civil Law Rules in Robotics the Parliament expressed concern for the public effects from rapidly advancing technologies. In the EU and SMEs: Contact for New Growth guidance for new enterprise formation present alternatives to jobs and wage employment. These notable expressions of EU policy concern are commendable.

The **RESOLUTION** statements note however, such EU pronouncements are selective and incidental proposals and fail to present encompassing, insightful, and confident response to an anxious public on a 'new start'.

Pronouncements yet pursue mainline economic goals, initiatives, and program measures. Citing 20th century era economic orthodox doctrine and principles[11] viz., growth, aggregate demand, innovation, taxation, education, and investment as foundation, there are edicts on a full-employment economy with higher quality living conditions on a 21st century[12] European continent.

Absent is an account of the potential economic and social gains for individuals from an autonomous productive industrial system and preparations in progress[13]. What constitutes a 'better quality life' for Europe's prime-age individuals amidst a transformed industrial wage-labor system? And what are the newly required transformed state institutions and public policies for governance under new conditions for active engagement of individuals in the advancement of quality communal life?

Often quoted 'new', precepts for economic performance in a formative society – life-long-learning and an extended period of working-life— anticipate an increased, and prolonged, exertion of human

wage-earning labor with an uncertain period of leisure retirement life during advancing years[14]. In the era of autonomous technology does a 'new start for Europe' forebode increased and extended duration of individual strain for job and income security[15]? And does 'life-long-learning' forebode frustration and misery for all who fail to adjust to rapidly advancing technology?

Yet to be formulated is a 'new' economy, with avant-garde economic principles, that distinctly advance measures of enterprise productivity and human labor performance. What are the new principles and measures for gauging performance of public representatives on the enhancement of the *quality* of human economic and social well-being? There is scant preparation evident for 'new' in the states' economics or in its organization of central institutions viz., health, education, security.

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PART A: RESOLUTIONS

1. Concern is expressed for an under-estimation of the range of economic and social impact from extensive and multiple applications of robot, artificial intelligence, and digital technology toward 2030 and beyond [16].

The **RESOLUTION** questions EU 'Economic Targets' for sound, full-employment[17], income earning workforce into 2030 and beyond. EU sundry reports, advisory documents, governmental guidelines, prepared for the European Parliament[18] and Commission[19] remark on the advancing technology transformation. However, documented assessments remain ambiguous and lack account for accelerating expansion in the application of robots (in their various forms)[20]; the omnipresence of artificial intelligent services applications; nor contain guidance for preparation of individuals in alternative work forms.

Reported economic projections for future human workforce requirements invariably ignore robot industry expansion[21], assessment of the breadth for robot application, or estimates of prospective worker displacement[22]. Estimates for prospective job losses from application of the varied technologies in progress rely on conservative assessments of labor substitution capabilities[23]. While yet other analyses seek to strip-out a 'human content' from autonomous work and preserve for humans 'augmented' jobs, so populating labor with countless stand-by workers for interpersonal 'psycho-social' chores.

The **RESOLUTION** questions paid employment as a valid indicator of economic performance and/or quality of life in a future autonomous industrial economy. Robot density continues to increase in the workforce[24]. Increase in robot density is associated with larger gains in productivity[25]. Meanwhile, labor hours per one million Euro increase in BIP continue to decline. To be prepared are new constructs which are deemed economic and civil society *work* and their means for gainful, and purposeful, human activity.

Concern is expressed that EU and member State Officialdom yet cling to policy directives, program initiatives, and human advancement goals, from a conventional fading phase of European industrial and societal organization.

Amidst correction from a slack recession economy, and yet disappointing job and employment scores, there remains adherence to past, 'routine', economic policies[26], practices, and theories thought basis for stimulating 'growth', 'productivity', full-employment and national wealth and so stall the options for politically shaping employment and social policy.

EU, and national government industrial policy to rehabilitate job employment with perpetuating *growth* (BIP) may briefly alleviate distress, or record gains in specified social-policy goals[27]. However,

such gains from *ad hoc* measures only obscure longer-run steady eclipse of jobs and wage-labor employment as the central means for individual security.

Robot 'operatives' and consumers relying on electronic platforms are set to perform tasks once were performed as wage jobs[28]. Prolonged adherence to dated economic rules and metrics will become futile as adequate public preparation for hardship during advance into an autonomous industrial economy.

Concern is expressed that preparations for reordering institutions befitting to new era civil societies, and felicitous social policies for inhabitants, to contend with the industrial transformation in progress, remain yet largely to be attended.

Workforce response to employment risks from nascent robot, artificial intelligence, and digital technology applications is not solely economic. Engagement of working-age individuals in jobs and employment has been a vital formative element in the organization of inclusive (male and female) financial security, social life, and perceived status of individuals.

Industrial enterprises and their applications of commercial technologies proceed on their private operators' own performance and value terms[29]. The aim of *investor* viz., profit gain, remains explicit in the industrial order[30]. The State's intent for *individual* gain in the societal order should be no less explicit for: ● the primacy of the individual, ● his/her stake in a prospering society, ● individual engagement in gainful and purposeful endeavor, and ● fidelity to democratic ideals[31].

While there have been some initiatives for reordering institutions for new era civil societies such as the 'smart city' urban development programs, their aim has been directed to integrating data analytics and communication technology (ICT) and Internet of things (IoT) technology in a secure fashion to regulate the city's assets[32]. A '**Social Progress Index'** which measures the extent to which States provide for the social and environmental needs of their citizens reaches closer to the changing quality of individual life. And a new '**Civic Life Index'** measures the prevalence of work by civic associations.

2. **Awaiting preparation are alternative (modernized) industrial and social policies for addressing required competences for worker participation in purposeful activity in an era of autonomous productive organization.**

The **RESOLUTION** questions GDP/BIP growth metrics as predictive measure of future employment or of individual well-being. Moreover, in a wholly transformed industrial system it is questionable to rely on economic indicators for figures on GDP/BIP that are increasingly imprecise[33] in accounting or rating economic performance[34] and individual well-being; or for EU funding allocation[35] to support social progress objectives.

Present BIP/GDP figures understate the effects from increasing quantity of non-market transacted human efforts (such as volunteer work) that represent high value-added gains to the fabric of civil society. GDP/capita figures misrepresent the actual status of social progress and 'well-being'. While 'growth' objectives are regularly circulated for national economic performance, there are no similar figures on other conditions for human welfare regularly circulated in media. In an era of advanced data analytics, the inaccuracies in national economic statistics should be addressed.

The **RESOLUTION** questions advanced education-level goals as surrogate measure for future full employment targets. A vocational educated labor force was an essential resource for productivity gains during the evolution of the 20th century machine-age. Advanced education then correlated also with individual employment security and higher life-time income. In the 21st century advanced vocational education *per se* is no longer an effective surrogate for labor employment policy of working age individuals[36].

Indeed, workforce pursuit of ever advancing levels of education has increasingly *inflated* employer job qualifications in virtually all occupations. Increasingly the net effect is to harm opportunities for jobs among the lesser educated. Meanwhile, graduates entering the workforce are regularly forced to bear education costs for employment on tasks/duties that often are well below their achievement level. Future education that sets human abilities apart from robot labor will require distinctly inherent competencies.

The **RESOLUTION** cites inadequate preparation in an era of increasing individual *spare time*. Wage-labor hours steadily declined in the 20th century. Increasing spare time was absorbed in incidental distracting activities. Further reduction in employment hours and/or total displacement from steady jobs will require new structured alternatives to engaging human abilities[37].

The increasing release of prime labor from industrial tasks/toil affords the opportunity to enlist individuals for valuable human-centered endeavors for civil society. Remaining to be attended are: (a) policies for expansion of private, non-profit social economy enterprises that originate opportunities for social innovation and volunteer services[38]; and (b) endowing *community engagement activity* (viz. volunteer work) with formal public commendation that would channel individual self-interest toward social cooperation and socially beneficial activity.

The **RESOLUTION** takes notice of EU initiatives on member states tax reforms[39] and administration of enforcement. Lacking preparation is conception of a 'new' tax regimen commensurate with a 21st century value creation commerce VAT regulations[40]. Enhanced enforcement of tax revenues in the era of knowledge-based value creation, additive manufacturing, and zero marginal cost justifies current attention. and natural resource depletion considerations. One also with an increasingly diminishing wage-labor source for taxation and structured collection.

Preparation of a tax regimen for new era working modes and producing modes remains to be conceptualized. Sporadic there is media reference to 'machine tax', 'basic income', 'single point tax. A new era tax regimen should have its own rationale, foundation, economic principles, and accounting system. What constitutes 'income' in the era of self-engaged work? Should autonomous applications be deemed physical capital? Should sharing transaction be taxable?

3. The RESOLUTION asserts social innovation, and social enterprises, are vital 21st century functions for human engagement. These forms appear underrated in EU innovation policy[41]. Proposed is the formation of a 'Social Innovation Authority' (beyond the present ESN supported by the EU Program for Employment and Social Innovation) with a mission to accentuate the utilization of autonomous technology for improvement of quality of life within the 'commons'.

Social enterprises fill-in essential gaps in desired/required consumer social services for which the supply-side of the market has neglected to establish value. (Many of the most essential functions for sustaining the societal order occur outside the commercial market and are performed as volunteer humanitarian occupations.) Sometimes referred to as '3rd Sector' these social enterprise models with their unique, human-oriented, services are sources for new work opportunities and activities of distinctly human ability[42]. There remains insufficient EU advocacy for development of the '3rd Sector' market[43]. A select group of social enterprises, and their sponsors[44] enable individuals to pursue 'ideas' as projects for innovation and development for beneficial civic purposes.

The **RESOLUTION** notes an EU policy preference for investments in industrial sectors and technical/commercial innovation[45]. One of the EU 2020 objectives proposes 3 percent of the EU's GDP (public and private combined) be invested in R&D/innovation. Meanwhile, social innovation and social enterprises are treated as a contingent class of creative activity. For instance, Social Impact Bond

(Social Benefit Bond), bonds financing projects with social objectives, as contract with the public sector to pay for improved social outcomes that result in public sector savings remain to be developed. Advisable is full-scale administrative and financial support for 'social innovation' and a European network of social enterprises and their sponsoring organizations[46].

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The **RESOLUTIONS** question the status of preparedness for a 'new start for Europe'. While the 'Pillars' speak to *values* these do not create a basis for organizing economic activity. What are the 'new' functional components/institutions? What are its 'new' beneficial pursuits for the individual and societal advancement? What new means sets a basis for individual access to the land's productive resources and provision for individual 'well-being'? What requires vigilance?

The **RESOLUTIONS** call for intensified preparations of a relevant, *Socio-Economic Charter*[47] (akin to the *'*Charter of Fundamental Rights of the European Union'*)* for securing individual, social as well as commercial benefits from transformative advances in autonomous technologies. The interests of commerce reside in the security of a capital-based economy. The interest of society in sustaining the individual and communal life in an era of widespread application of autonomous means requires an attestation of man's benefit. For instance, should industry applications of autonomous productive resources enable humans to restore primacy of family activity in preserving a distinctly human character[48]?

Sustaining a well-ordered civil society with a high standard of individual well-being creates ample demand for educated, competent, workers engaged in varied civic and communal activity. Required from EU economic governance is state-of-the art conception for a vigorous development of the continent's future human resources. Preparations to include opportunities in innovative forms for human engagement in civil sector development equaling industry sector development (and reliance on) autonomous productive resources. Required from EU and State governance is more substantial public preparation for devising a transcendent economic, and social, ethos for Europe's 21st century societies. To be devised:

- New means for individual participation in the wealth creation from autonomous systems.
- New forms of determining social progress (beyond GDP) to assess quality of life and sustained human satisfaction.
- New expanded opportunities for individuals in their prime years to choose self-satisfying meaningful work in either industrial or civil sectors[49].
- New social and moral standards for meriting human resource contribution to civil society.

The RESOLUTION accords present critical, unattended, preparations for a 21st century progressive economy[50]. Awaited from EU Authorities is a more self-evident account of the scope of adjustment to be attended within the industrial economy and civil society amidst securing for Europe's inhabitants yet further achievement in their communal life.

16 January 2018

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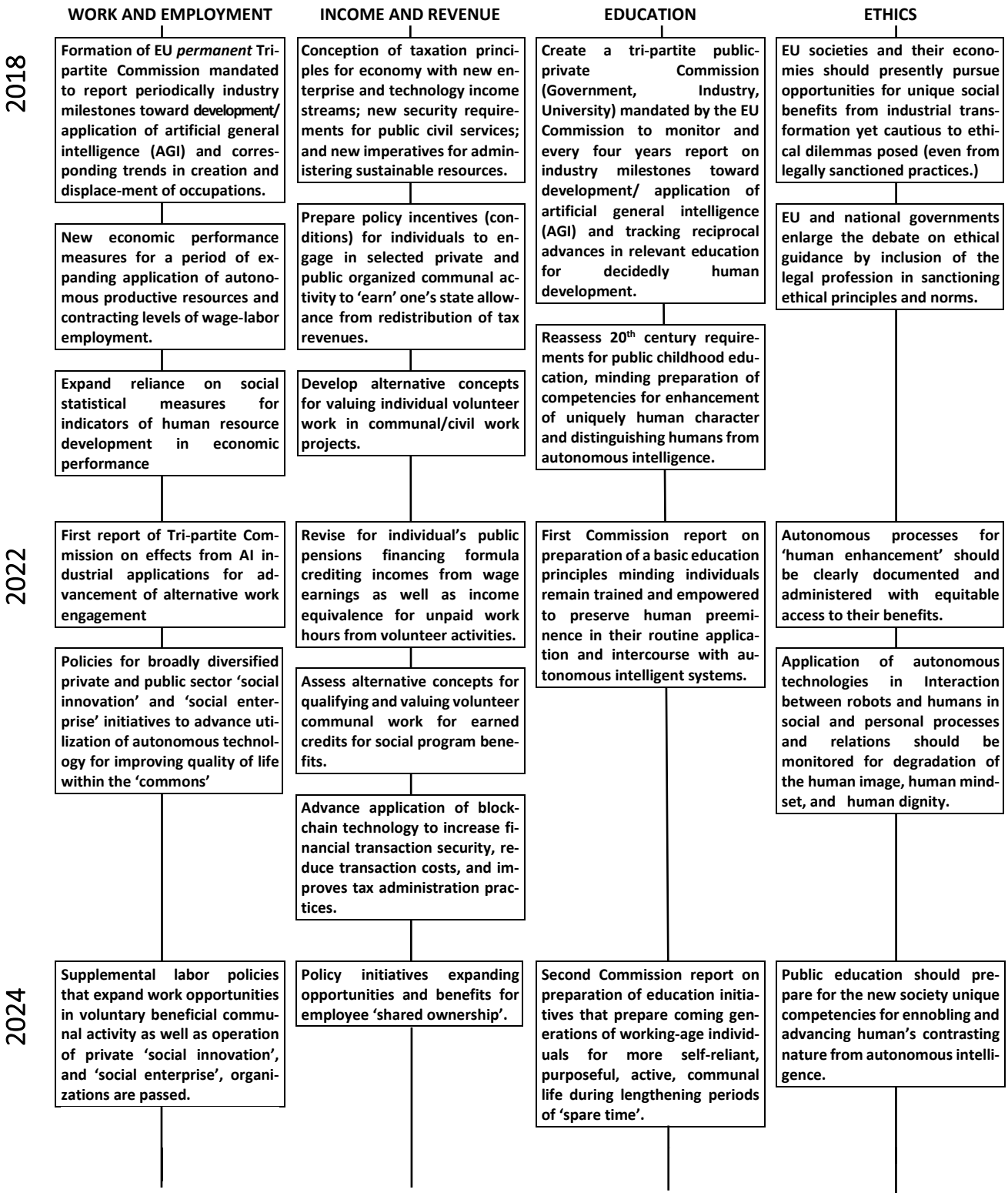
ECONOMY IN TRANSITION: ARE WE PREPARED?

PART B: RESOLUTIONS

RESOLUTION accords address conditions in four societal sectors during transformation toward a 21st century socio-economic order: (1) organization of work; (2) source of income and revenue; (3) education in the era of artificial intelligence; (4) social and ethical relations in human/robot interaction. Concerns in civil law, legal transactions, and liability also will pose perplexing adjustments as robot/AI presence crowds human social space[51]. These four subjects shift public focus from technology jargon (viz., 4.0, robot cars, digital networking, internet-of-things, peer-production, artificial intelligence, etc.) to: What do these developments mean for democratic capitalism and society itself?

The RESOLUTIONS urge more immediate, and insightful preparation for the climaxing event – the advance into a society with distinctly altered: urban communal life, societal norms, work/leisure ethic, and attributes of quality in the individual's daily life.

RESOLUTION SUMMARY



1. WORK AND EMPLOYMENT CONSIDERATIONS

To be assessed is the relation of autonomous technology to the nature of human work and employment into the 21st century. Emphasized is a need to understand, and track trends, regarding substitution of autonomous productive resources for human work and develop strategies to inform, prepare the labor market for micro and macro changes in the industrial sector. Preparation for displacement of job employment and its import for social protection services should not be deferred to looming crisis.

The Council is mindful of an EU administration commitment to, and striving for, a full-employment economy[52]. Through coordinating and monitoring state employment policies (EU Annual Growth Survey) and devising programs and subsidies, the central administration also pursues policies for increasing the labor participation rate of diverse ethnic groups within the larger EU social assemblage[53]. Labor policy seeks placement of this workforce in steady, quality employment, with minimal unemployment.

The EU central policy tool for employment has been *growth*. Past decades of economic 'growth' with corresponding demand for labor and advance in 'standard of living' in recent times has decoupled. Pursuit of GDP/BIP 'growth' is dubious labor policy for EU future full-employment aims. New era industrial productive processes and systems will be sustained by fewer numbers of employed in diverse specialty occupations.

The diverse factors that spurred quantitative growth have altered in their relative effect. The 19th century economics of 'scarcity' have given way to the 21st century economics of 'surpluse'[54]. Policies that stimulate 'growth' presently drive consumption of personal 'convenience' goods. Preferences for satifying personal life steadily advance to higher levels of Maslow's hierarchy of 'needs'. Economic policy based on steady aggregate demand, i.e. indulgence, for its jobs ,is a dubious design for a decent civil society or for befitting development of human resources.

It is proposed EU and State Officialdom purtsuing a 2030+ vital socio-economic order mind 3 assessments in initiatives for engaging working-age human resources.

- Past doldrums in the labor market stem from more complex origins than a legacy of the last decade crisis or a moments slow pace in 'structural adjustment' to new productive processes[55]. An accelerated shift in structure of industrial work (viz. autonomous systems, contingent forms of labor) pose disadvantageous consequences for workforce employment in industry that exceed EU and State anticipation and policy response.
- Perceived is an EU disposition toward underestimating the rate and scope of robot, AI, and digital technology application, and over-rating the future requirements for technology- related occupations[56]. Experience from an industrial 'machine' period is not a reliable indicator for impact from industry transition to 'autonomous' productive forms. Current robotics already exceed public preparedness for the transition in progress or for workforce adaptation.
- A formative 21st century society is bound to identify alternate personal and public forms for human beneficial activity. Diverse *social enterprises* and social institutions increasingly enable individuals to engage in gainful, and purposeful, activity performing beneficial civil society work[57]. Awaiting consideration is public policy on alternatives to industrial, market-based, work. Expanding options for organized, diverse, civic sector work and concepts for 'compensating' non-market-based work are vital initiatives for a transitioning economic and social order.

The industrial restructuring in progress is well beyond revising occupations, qualifications, and job titles. The very nature of human's presence in the job economy is at stake. Industry has at-hand new competent means for performing physical and knowledge tasks. Society has at-hand working-age individuals who may now utilize their vitality to enhance the commons. Individuals relieved from

exacting specifications of job duties may now exercise a range of their at-hand talents. The continent's governing Authorities confront preparations for this 'new start for Europe'.

1. The RESOLUTION urges policymakers reassess the Delors White Paper of 1993 on 'Growth, Competitiveness, Employment: Challenges and Ways Forward into the 21st Century'; The Luxemburg process; and, the ensuing Charter of Fundamental Rights with their advocacy for an inclusive, full-employment, labor market (jobs for all).

EU labor policy with its affirmation for full-employment spanning an ever-larger labor participation of working-age individuals* confronts a contrary industry trend toward increasing application of autonomous technologies. Social partners must work together with Member States and the Commission to develop a strategic response to the impact technology. To be prepared remains a strategy aimed at achieving broader-based community sources for occupying working-age human resources. To be considered are aims, objectives, and policy priorities for the territory's inhabitants adaptable to an industrial economy set for 'employment' of multi-millions of robot and AI devices in private and public enterprises.

The RESOLUTION urges supplemental labor policies that expand work opportunities in *voluntary* beneficial communal activity as alternatives to frustrating joblessness.

Revisions in occupation with their perceived gain/loss of public status will require attention to cultural ethos, and ways of conveying suitable societal appreciation while avoiding prospects for an intolerable social divide. Work title ranks ascribed to diverse communal voluntary activity could be based on years of service and merits to avoid invidious comparisons with private sector industrial job titles. A national measure for *volunteer* activity (BIP-2 sector measure of informal productive economy) would yield more accurate insights into human effort in the social development of society[58].

The RESOLUTION urges policies for expanded private and public sector 'social innovation' initiatives and formation of 'social enterprise' organizations. Facilitating development of diverse creative industries' models[59] would be legal identity and sanctions for new forms of worker cooperation (e.g. crowdsourcing) and enterprise financing (e.g., crowdfunding).

The RESOLUTION urges the application of new statistical measures for economic performance and social development as indicators for progressive state governance[60].

The shortcomings in the GDP/BIP measure are well documented. The seeming decline in productivity may result from inadequate measurement of digital activity as well as a progressive shift in market transactions of former job tasks to private persons[61]. Qualitative changes in economic and social terms also are incomplete. Enhancements in auditing procedures for both private and public enterprises could include 'social' outcomes. Reporting capabilities of EUROSTAT could be expanded and enhanced to include 'public value'. Future reports on status and progress of human conditions on the continent hence be merited from *qualitative* indices of 'Social Development' (viz., good living conditions and positive well-being) or 'Quality of Life' (QOL).

The RESOLUTION proposes forming a *permanent* tri-partite public-private Commission (Government, Industry, University) mandated by the EU Commission to monitor and periodically report industry milestones toward development/application of artificial general intelligence (AGI) as means for tracking corresponding trends regarding creation and displacement of occupations in diverse fields/areas of qualification[62].

The Council rejects two often cited beliefs for underrating permanent impact from technology on future employment: (a) 'machines' commonly *augment* human labor; and, (b) historical experience

with new technology and productive 'machines' has yielded new occupations and prompted employment. Referencing historical data on employment patterns from technology induced growth, ignores two critical past differences: (1) public emergence from impoverishment that charged a consumption growth and (2) a highly underdeveloped infrastructure that had charged a 20th century infrastructure growth.

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Introduction of 'robot operatives' and digital information processing into the work space upset accepted patterns of economic and personal work. Robots and information represent new asset classes of capital[63].Absent public insight into the opportune, and beneficial, integration of their productive processes into the economic[64], social, and personal provinces of society will confront public authorities with divisive political strife.

To be considered are: What constitutes vital economic and social work for human abilities amidst omnipresent of autonomous forms of service providers? How to prepare future generations of prime-age individuals for gainful, *purposeful,* thriving communal endeavors?' What ideology, and conception of participatory democracy, will rationalize man's future pastime diversions during prolonged periods of spare time?

2. INCOME AND REVENUE CONSIDERATIONS

The RESOLUTION accords affirm a necessity for innovative tax policies in new-era wealth-creation commerce. Autonomous and digital productive processes with their worrisome prospects for individuals to earn steady wage (job) incomes present conditions for drastically altering the future revenue source from state income tax revenues.

The basis for employment taxes will become unsound with radically altered employment of a mixed human and robot workforce. Foreseen is an economy in which industry operators discontinue being the primary, reliable, and responsible, agents for securing worker employment and providing steady wages[65]. Justification for employee income taxes (personal income tax) will become increasingly questionable as solely the remnant employed are subject to income tax[66]. The Council takes notice of a recent report that finds "…scope to shift labor taxes to alternative consumption, recurrent property, and environmental taxes.[67]"

Preparation is required for substituting future uncertain (declining) employment tax revenues with distinctly alternate state initiatives and policies for administering its social justice and civic services. The Council is mindful of reported tax reforms in EU member states[68]. Notable are EU Member State proposals for diversifying revenue sources. Shifts in the incidence of taxes are cited. Incidental changes in collection of VAT taxes are cited[69]. Several states introduced taxes on pollution and resources[70]. Others use tax policy to "stimulate socially responsible investment".

There are no principles for clearly distinguishing permanent establishment (PE) and virtual PE, or policy-strategy statements on state future revenue sources, in a digital industrial economy creating wealth through application of distinctly new means. (e.g., data mining)[71] and circulating virtual local currencies. Further required, is a reconceptualization of the current PE rule to re-allocate taxing rights between the source and residence countries.

Noted are recent tax policy reforms that secure the state's interest in the corporate tax base of multinational companies by mandating taxes on profits in jurisdictions where the corresponding trade takes place (and not necessarily in foreign locations where the firm is registered.) However, an EU Report on tax reforms neglects to consider tax policy response to increasing dislocation of wage-labor from altered employment terms and industry deployment of robot 'workers'.

Notable as well is EU Parliament's recent adoption of a non-legally binding Report on rules for robotics but vetoing a universal basic income (BIG) proposal to offset the impact from robots on the labor market.

The emerging sectors of *autonomous* and *individualized* productive processes will be a dominant characteristic in 21st century industrial activity. New forms of assessing tax on these productive resources will be required. Considering future EU tax policy, the Council regarded three formative developments.

- The *Charter of Fundamental Rights of the European Union* has affirmed income security and equal access to essential services as basic rights of individuals. With impending displacement of individuals from steady jobs, required now is an admissible alternative for replacing loss of worker wage incomes.
- Present EU social protection and pension systems financed with employment taxes will likely not remain a sufficient, or effective, source for replacing the purchasing power from ever larger-scale job displacement and forgone wage incomes. Underway are 'experiments' in several OECD jurisdictions with 'income supplement' programs (e.g., basic income guarantee (BIG), CORE support, earned income tax credit and other 'non-means tested' measures) for alterative individual come support.

- Increasing novel enterprise modes not yielding taxable income. Evident are increases in the number of NGOs and other forms of providing and trading individualized goods and services. While yielding enhanced application of *human* resources in civil society, their impact on revenue is not directly computable. (A new Civic Life Index measures the prevalence of work by civic associations.) Shift from personal 'ownership' to 'access' for household property; 'cashless' commercial transaction; and blockchain[1] systems for creating value from digital productive processes also are not readily accountable for taxation.

The three developments will further advance the individual's freedom in pursuit of self-satisfaction from expression of one's initiative and vigor for novel work. The economy's early-on transition to agriculture, followed by transition to an industrial labor market, and current advent of autonomous productive propcesses, has enlarged successively man's choices for work pursuits. Foreseeable is yet a further extension toward engagement with distinctly human social conditions. Often lacking customary 'price tags', such services will necessitate new forms for tax revenue.

Seven RESOLUTION accords are urged for consideration by EU and State Authorities as necessary preparation during the transition phase toward autonomous productive processes and a shift how workers earn incomes and on new resources for the incidence of tax revenue.

1. The RESOLUTION minds the distribution of *abundance* (wealth) in a robot/AI industrial society must be based on criteria strikingly different from an economic system based on *scarcity.*

Proposed is an EU review of commercial and personal tax regimen in a comprehensive restructuring on the incidence tax revenue based on: (1) new conception of assets and market value; (2) new enterprise structures; (3) new relevant economic principles[72]; (4) new social accounting standards[73], and, (5) new imperatives for conserving endangered resources.

The RESOLUTION urges any public policy for continuous state allowance (i.e. redistribution of tax revenues) to individuals should include incentives (conditions) for able recipient presence in chosen organized private and public 'communal work' programs to 'earn' one's distributed share.

It is the Council's conviction individuals for their self-regard will perform chosen beneficial civic work given 'opportunity' and 'selection' for alternative well-ordered purposeful service.

The RESOLUTION proposes the commissioning of economic, scientific, and social institutions to assess and report on: (1) concepts for 'community-based' alternative forms of work; and, (2) concepts for valuing productivity gains and individual work in communal work projects.

Individuals will withstand technology displacement through involvement in self-sustaining local communities. To be accessible is a 'record' system for performance of diverse forms of beneficial communal activity, volunteer activity, or personal care work now not transacted as 'market' services, yet work qualified and credited to the individual's civil services account.

The RESOLUTION proposes any pension financing formula crediting incomes from wage earnings also should be amended to include crediting income-equivalent earnings for documented hours from volunteer activities.

A basic tenet for a revised pension policy is provision for individual incentive to enhance the value of the pension (derived from earnings) with additional *alternative* work contribution (derived from volunteer hours).

The RESOLUTION urges timely assessment of tax revenue from new era productive processes and income stream sources[*]. PE rule which places an excessive reliance on physical presence are unsuitable for digital business that can participate virtually in the economy of the source country through technology.

New tax regimen principles are required to preserve industry investment in productivity gains while also meeting the state's requirements for public services. Prospective **s**ources for tax development could include: financial transaction; data flow transactions[74]; environment degradation (carbon pollution) assessments.

The RESOLUTION urges the investigation into the prospect of expanding shared ownership. Many firms have profit-sharing or group incentive pay structures where employee earning depends on the firm's profitability[75].

Required are public policies which offer tax incentives for firms that give workers ownership shares; or, changes in corporate governance which permit worker voices in the way technologies are implemented.

The RESOLUTION urges further application of blockchain technology for financial transaction security; reducing transaction costs arising from the interposition of intermediate agents between transacting parties; and, improving tax administration supervisory practices.

Applying effective tax administration is essential to an economy where productive processes are often intangible. Tax administration is increasingly confronted with distortions produced by an obscure/ oblique nexus between tax and value-generating activity; a condition aggravated by effects of globalization and digitalization.

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The achievements of public industrial policy and tax policy are reflected in the life satisfaction of the governed state taxpayers. A tax regimen suited to formative 20th century industrial structure with its array of labor intensive resources had yielded a distinctly new means of creating economic value. And through worker *wages* an alternative means for providing their livelyhood. While the state sought to preserve it's hegemony over civil society with new sources of revenue income. A complex series of tax principles and codes came to finance EUs states' democratic capitalism and the cares of inhabitants (e.g., progressive vs. regressive taxation, depreciation, deduction, etc.).

A 21st century tax regimen one suited to a transcendent autonomous industrial order, creating value through distinctly new means, and less human labor-intensive resources, will require alternate rationale for sources of revenue, and civil ethic for its obligations, to a flourishing civil society. It will also impose new standards on state governing Authorities in performing tax and social administrative functions. While for civil society official state reports on 'standard of living' will further evolve from being based primarily on economic indices, to social measures of 'eudaimonic well-being[76]' (viz., quality of individual[77], and communal[78] life'.)

[*] Using environmentally-related '**re**source' taxes has demonstrated that new forms of taxation can offer an effective means for alternative tax forms and promote public policy objectives.

3. EDUCATION IN ERA OF ARTIFICIAL INTELLIGENCE

Educated human labor has been central in 20th century industrial and economic life, and the critical resource for productive application of technology. Concern is expressed for lack of policies that address the substance of basic 'human' education for societal, and cultural conditions in a 21st century transition to productive autonomous industrial jobs. [79].

The advent of artificial intelligence (AI) , and its embed in working 'apparatus' (autonomous systems), is creating new forms of intelligent productive 'operatives'. The numbers of these novel workers is limited only by the pace of their appearance from the assembly line. While their knowledge is instantly transferable from acquired experiences of preceding generations. (Among humans each child must learn how to count and read.) In these 'operatives' humans contend with forms exhibiting extended levels of artificial intelligence and near limitless memory. Meanwhile, steady gains in their 'learning ability' (computing and communicating intelligence) will strain rehabilitation and workplace adaptation in human workers.

The **RESOLUTION** questions often-touted limits to robot and AI abilities (by comparison to human traits.) Each features its perfection. What is said robot labor cannot perform well underestimates potential already in progress, or what may well be achieved in the course to mid-century. The relevance for future education is *not* in integration of digital conception into curricula to match the limit to robot/AI abilities; or, in its extension into the instruction/learning process[80]; rather in perfecting for its members distinctly human intellectual and emotional qualities suitable for a new era of human enanement. To be attended are: (a) perfecting unique abilities/skills for enabling humans to compliment/augment autonomous productive processes for their benefit; and, (b) perfecting vital social competences for purposeful and gregarious human engagement in an era of increasing disposable time.

Even as industrial operations adopt autonomous processes (increase in the Robot Density Index) and established occupations/professions are vulnerable, EU economic and labor policies pursue education attainment as primary preparation for 'job' knowledge and employment. MINT policy presumes technical education for a future labor force will outpace the advances of AI-embedded intelligence in smart robot labor (and other autonomous technologies) in available jobs. Education policy remains a pseudo labor policy accountable for a task of workforce preparation even as industry requirements steadily diverge from the imperatives for preserving social civil society life amidst encroaching dominance of technocracy

The **RESOLUTION** questions a policy for the public of ever higher education attainment as feasible countermeasure to risk of employment displacement [81]. Advocating intensive education for the sake of 'job preparation' perils the future for human resources as Europe's industry transitions to autonomous resources. The net effect is to inflate education levels for ordinary occupations[82]. An education strategy for imposed human development based on rivaling advances in embedded artificial intelligence has little to commend it.

What education then remains relevant to human development in an era of pervasive artificial intelligence in commonplace work? Essential is an altered perception of future human societal activity and what is deemed 'civilizing'. In a less job-regimented industrial economy, and less requirement for exacting task know-how', education will face individuals raised for less disciplined work settings and engaged in more casual pursuit of studies. As individuals cope with exercise of social intelligence and 'spare time' education will have to rediscover its intrinsic mission for society. No longer tasked as industry source for certificated 'job know'-how, education may now function as source to insight for a generation of industrious self-directed visionaries within civil society. Awaited is preparation of a paradigm fitted to a new social purpose for education[83].

Preparation for a 21st century relevant public education for Europe is urgent given the protracted lead-times from contested implementation. The Council urges the EU and national governments to heed 3 assessments in preparing policies for education as humans strive for identity and purposeful life in a future autonomous civilization.

- In an era of increased self-reliance in adulthood, early-on childhood development assumes importance. Development of *innate abilities* during childhood along with emotional, social, and physical behavior has lasting effects on stable adulthood. Programs for early (3-7-year-old) development require renewed attention.
- As industry requirements for human routine labor slacken, and firms become more personal and selective in their customized requirements for human/robot interface occupations, employers should be induced (with appropriate public policy) to share pro-rata in the cost of education preparation. The cost is an off-set to industry employment of autonomous technology.
- Information systems with their diverse digital content applications may be utilized to decentralize education. Community-based campuses (campuses in the commons) would be inline with policies for 'lifelong-learning'. Such campuses would provide formal forums for enhancing individual reliance on informal social or public information (viz., social media). (Reformation of education is beyond application of digital content in instruction or competence in its general application.)

In the future course of education the nature of the human presence is at stake. How human response may assert itself to omnipresent intellegent forms is uncertain. Relieved from confining requirements of industry 'job descriptions' individual in the future can pursue talents suited to their innate gifts. While industry has at-hand new competent means for performing physical and knowledge-based tasks, civil society will have at-hand prime-age individuals who may utilize now their ingenuity, inspiration, energy for novel conditions in their civil environs.

The territories' governing Authorities confront preparations for encroaching events in their plans for **'**new start for Europe'. Four education concerns for EU and national government's attention are cited.

1. The RESOLUTION minds what are vouched now as exclusively human attributes – and perhaps stay so for a period– may nonetheless become vulnerable during AI's further development. The course of development is vital to a future orderly economy and secure civil society.

The education establishment has come to take its cue for content from *industry interests* and requirements for jobs. The practice tended to subordinate the unique *élan vital* of the individual. With industries' steady pursuit of 'educating' a proliferating, robot workforce, any new paradigm should place the *individual's interest* and talent at the center of education. At stake is not how man will produce, but how man will live.

2. The RESOLUTION urges public education Administrators reassess past 20th century aims and teutorial models for early childhood development, primary education, and advanced 'vocational' education for their relevant instruction of coming generations of individuals confronting a 21st century formative society requiring more self-reliant, purposeful, active, engagement in communal activity.

A 21st century public education system should resume its basic functions: • educating the individual for development of his/her inherent ability; • preparing the individual for engaging in purposeful pursuits; and, • participation for active civic engagement in communal-life affairs. The while industry assumes responsibility for particularized education requirements of its employees and associated expenses[84].

3. The RESOLUTION minds education policy's future aim should be vitalizing the novel competencies distinguishing human, from artificial, intelligence (viz., human social competence, creativity, moral capability, autonomy, ability to serch, discuss, persuade, reflect upon, and pursue one's own purpose of life, and to devote working time, spare time, and societal time in accordance with their own horizon of meaning.)

Lifelong learning should not be perverted into one's constant anxiety from pursuing forms of artificial intelligence for retaining qualification for securing individual livelihood or for means to essential social services. Rather, when jobs are perishable, technologies come and go, and the individuals' working lives are longer, social intelligence assumes a human foundation. It affords humans an edge in a period of interaction with an alien intelligent presence enabling them to perform work calling for emotional intelligence, empathy, altruism, and human interaction – traits that well elude artificial intelligence.

4. **The RESOLUTION proposes formation of a tri-partite public-private Commission (Government, Industry, University) mandated by the EU Commission to monitor and report every four years on industry milestones toward development/application of artificial general intelligence (AGI) and tracking corresponding advances toward relevant public education for decidedly human development.**

An era of pervasive artificial intelligence is not reversible. Europe either strives with the dominant in its development (U.S[85]., China[86], Japan[87]) and seeks some destiny over development and application, or submits to its presence – benefits and harms – on Super Power terms. In either event, the territory's inhabitants entail the risk of unpreparedness from its consequences. An *aptly* educated populous remains Europe's security for a distinctly human civilized society.

4. ETHICAL CONSIDERATIONS

The emergence of a society and economy integrating autonomous technology and multiple digital applications pose for humans a distracting and confusing social transformation from accustomed living conditions. Reorientation occasions uncertain prospects for human engagement in work, social decorum and ethical observance. Wile the EU Charter of Fundamental Rights restates precepts on dignity, freedoms, equality,solidarity, citizens' rights, and justice these expressions of social justice as anthem for a European Union remain to be extended to the emerging unique societal pursuits in an era of human/robot/AI comingling.

With application of technologies that are increasingly autonomous in operation, ethical bearings require human responsibility for their development, application as well as effects from their harms (e.g., for AI weapon-systems). Ethical precepts must therefore mediate policy decisions on human interaction with autonomous weapons systems. Ethical considerations must prevail also for their application and effects in the economic sector (e.g.,displacement of workers); social sector (e.g., as caregivers); and, environmental sector (e.g., indiscrimate exploitation of remote resources.) Preparations should include further determinations from a legal perspective on concepts and approaches to robot ethics[88]

It is likely that legal requirements will be how robotics engineers will find themselves initially compelled to build robots ethically, and so a legal framework that will structure those pressures and their technological solutions because those specific issues require a well-defined sense of how responsibility is focused, transferred, and distributed in and around robots. The vast majority of practical decisions faced by humans, and potentially by robots, will be of the sort that legal and moral theories will largely agree on what actions are appropriate. Building a robot capable of safeguarding the legal responsibility of those who build it and use it, would be a good start in building one which has moral responsibility[89].

While the six resolution topics are interrelated, the following ethical aspects are accentuated [90].

1. The RESOLUTION asserts that the social transformation driven by robot, artificial intelligence, and digital technologies presents opportunities for unique social benefits. EU societies and their economies should pursue benefit from the industrial transformation while cautious to ethical dilemmas posed even from their legal sanctioned application[91].

In progress are robotic applications in medical and health care (for individuals with disabilities empowering them to live assisted lives); financial markets enhancing transactions in through larger volume, data-volume, and precision in transactions; enterprise administration enabling innovative business models; and, performance of industrial tasks that relieve humans form stifling, and burdensome toil, while empowering their innate abilities to perform more gratifying work of economic and social consequence.

The RESOLUTION urges EU and national governments to enlarge the debate on ethical guidance throughout rapid applications and outreach of robotic and AI applications by active inclusion of the legal profession in sanctioning ethical principles and norms.

Processes based on self-learning software (machine learning) and neural networks are set to surpass remarkedly present state of application. The paradox of autonomous processes is that on one hand these increasingly exclude human effort from the value-creation-process while on the other hand humans retain the legal and moral responsible for their effects. In the design and programming of autonomous technologies the ethical aspects should remain within human control. Ethical principles and legal limits should accompany the statement of their operating characteristics.

Potency of embedded ‘moral’ networks for autonomous technologies remains unsettled. The term ‘moral technologies’ can be misleading and in this sense problematic as technological systems can

follow and implement heteronomously predefined norms. Autonomous systems lack the capability to exercise freedom, conscience, and universal moral norms. Humans should remain accountable for the acts and conduct of autonomous operatives.

The RESOLUTION asserts that autonomous processes for 'human enhancement' should be accompanied by clear documentation for their applications, and administered with equitable access to their benefits.

The prospect for human physical and intellectual enhancement from application of technology remains of vital importance. Foreseen are extensive commercial/economic financial benefits. To be at-hand is a legal framework, and ethical basis, for personal applications of autonomous technologies. Of vital consideration remain the prospects for 'human' enhancement of physical and intellectual performance from application of technology.

The RESOLUTION expresses concern that regular interaction between robots and humans and robot routine intervention in social and personal processes[*] and relationships may lead to a degradation of the image of humans, of human mindsets, and of human dignity.

The **RESOLUTION** urges approval of the European Civil Law Rules in Robotics as means to avoid further delay for formal moral and legal accountability in the case of accidents and crimes stemming from application of autonomous operatives. The Council acknowledges the varying initiatives by the European Parliament, Commission, nation states, and private institutes[92] on the regional levels to propose EU-wide rules on robotics and artificial intelligence. Confronted with the increased complexity of the autonomous transformation, and its rapid application, it is essential to identify the dimensions of responsibility (e.g., subjects of responsibility) and the relations of shared responsibility.

The RESOLUTION cautions that diverse applications of autonomous processes will lead to a substantial loss of industrial wage jobs.

Self-learning systems will compete for knowledge-based industrial tasks. Structuring job qualifications for human component in industrial work which demean, rather than elevate the human aspect should assume *ethical* concern. State standards for new professions (such as programmers for autonomous devices in continuous contact with humans) will be necessary. Contraction of wage paid labor poses ethical concern for the welfare of those with financial insecurity. And the Gini coefficient reporting a widening spread between rich and the poor in the population poses an ethical concern for an equitable value-creation process and a fair tax regimen.

As a western 'work-ethos' (instilled for 500 years) and the industrial basis for wage jobs and ready market employment confront transition to new industrial productive resources, a new *ethical* foundation for *'conscious capitalism'*[93] will be necessary with alternative aims and means for yet further advances in the quality of life in the territory. While with increasing spare time and degrees of choice for own horizon of life's meaning and personal satisfaction from work-time conditions, new ethical norms for justifying one's tasks in daily life and in social engagement will also become necessary. The **RESOLUTION** minds reversal of historic ethical norms and their modern origin requires of governing authorities earnest public 'confidence building' measures.

The RESOLUTION minds that public education should prepare for the new society and economy unique competencies for ennobling and advancing human's distinguishing nature from robots with artificial intelligence

[*] Massive impact of the high presence of social networks in daily life on social behavior, social competence, and personal interaction.

Childhood public education should be patterned for behavior of distinctly *human* character enhancing and distinguishing the qualities of ethical reasoning *(Vernunft*), critical thinking, ability to interact with complex autonomous 'systems'. Work life in a more 'human centered' economy and civil society will merit social competence, creativity, arts, moral capability, autonomy, capability to search, discuss, reflect upon, and define one's purposes in life.

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The Signatories urge the EU pursue public measures that would clarify, and address, ethical concerns during the period of a formative society and economy. Means and ends have their own rationale. The Signatories are aware of their contrasting effects. The 'ends' for a New Start for Europe should clearly merit the benefits to be secured from new autonomous productive processes. The 'means' should observe human rights as legal and ethical references based on the Charter of Fundamental Rights of the European Union.

EXCERPTS – "TRIPLE REVOLUTION"[*] (1964)

"This Resolution is drafted in recognition that civilization is amidst a historic period in industrial and social transformation which compels a fundamental reexamination of national values and institutions."

"A new era of production has begun. The Cybernation Revolution results in systems of almost unlimited productive capacity. Systems which also require progressively less human labor. Cybernation is already reorganizing the economic and social system to meet its own needs."

"Preparation of public policies for coping with the progressive effects from cybernation is indispensable to the creation of an atmosphere in which the critical issue, the means for public well-being, proceed with resolve while maintaining public confidence in Government and its leadership."

"Individuals are increasingly exiled from the economy by cybernation. Promises of job creation and employment are a cruel and dangerous hoax to those who are especially vulnerable to cybernation."

"Cybernation appears as a revolution in production. These include the development of radically different productive techniques, novel principles for reordering jobs and employment, and man's relationship to his society."

"**While the major aspects of the cybernation revolution are for the moment restricted to the U.S., its effects will engulf the industrial world and large parts of the non-industrial world. The problems posed by the cybernation revolution are part of a new era in the history of all mankind.**"

"As machines take over production from labor, the displaced become dependent on minimal and unrelated government measures – unemployment insurance, social security, welfare payments."

"The continuance of the income-through jobs link as the only major mechanism for distributing effective demand – for granting the right to consume – now acts as the main brake on the almost unlimited capacity of a cybernated productive system."

"Abetted by special interest groups, these have urged perpetuating an economic model based on concepts of scarcity and evading the prospect of abundance produced by cybernation. The relevant economic consideration is not how to increase production of goods and services but how to distribute the abundance potential from cybernation."

"There is an urgent need for a fundamental change in the arbitrary model that limits consumer participation in the market to those momentarily on a payroll."

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ENDNOTES

[1] "The Great Baby Bust of 2017", Lyman Stone, November 29, 2017

[2] Good AI project mission is to develop general artificial intelligence - as fast as possible to help humanity. Started in January 2014, funded $10M. The R&D institute is now an international team of 20 research scientists and engineers based in Prague, Czech Republic.

[3] "My Agenda for Jobs, Growth, Fairness and Democratic Change", Jean-Claude Juncker, Opening Statement, European Parliament, 15 July 2014.

[4] "The End of Work: The Decline of the Global Labor Force and the Dawn of the Post-Market Era", Jeremy Rifkin.

[5] 41% think that the EU is best placed to take effective action to address the impact of the most recent digital technologies. 47% think that companies or national public authorities have a role to play, Attitudes towards the impact of digitisation and automation on daily life, European Commission, 10 May 2017.

[6] The Council has taken note of the following: European Union's Convention on Robotics 2025; The Charter of Digital Rights; European Civil Law Rules on Robotics.

[7] A Broad Understanding of Innovation and Its Importance for Innovation Policy, SSIC Secretariat Working Paper 1/2014, Wolfgang Polt, Joanneum Research.

[8] See Peter Drucker, The Next Society Is Closer than You Think. November 1, 2001

[9] EU NGOs petitioned President Juncker to set out, as a matter of great urgency, how the EU will respond with clarity and conviction to the challenge of the ambitious and universal Agenda 2030 and to commit to developing an integrated, overarching strategy covering internal and external affairs.

[10] European Pillar of Social Rights sets out a number of key principles and rights to support fair and well-functioning labor markets and welfare systems.

[11] The European Semester, Annual Growth Survey 2015 "Goals of the European Semester: ensuring sound public finances (avoiding excessive government debt); preventing excessive macroeconomic imbalances in the EU supporting; structural reforms, to create more jobs and growth; boosting investment."

[12] While there remain large populations on various territories living in scarcity that yet would benefit from industrial output and extend the period of economic expansion, the pattern of their social existence will not like be as material intensive. Super expressways with millions of private automobiles are not likely to crisscross central Africa. Nor is 'stable' equivalent to 'stagnant'. Female fashions can change constantly without constant increase in the wardrobe.

[13] Similar to the Cecchini Report, Completing the Internal Market. White Paper from the Commission to the European Council June 1985.

[14] "A significant increase in actual (chronological) retirement age and also (beyond the years 2020 to 2025) legal retirement age will be indispensable in order to cope with population aging.", Welfare in an Idle Society, Reinventing Retirement, Bernd Marin, Ashgate.

[15] See: Joint Employment Report from the Commission and the Council, Brussels, 16 November 2016, p6., "Member states focused on improving the sustainability of their pension systems by increasing retirement *and limiting access to early retirement."*

[16] The Council has taken note of the following: European Union's Convention on Robotics 2025; The Charter of Digital Rights; European Civil Law Rules on Robotics.

[17] The targets of the Europe 2020 strategy is to have an employment rate of at least 75 % for persons aged 20-64 in the EU by 2020. This objective has been translated into national targets to reflect the situation and the possibilities of each Member State to contribute to the common goal.

[18] E.U. Annual Growth Survey, 2017, Brussels, 16.11.2016 COM (2016) 725 final; New Dynamics for Europe: Reaping the Benefits of Socio-Ecological Transition, WWW for Europe, WIFO, Karl Eiginger.

[19] DRAFT REPORT: Recommendations to the Commission on Civil Law Rules on Robotics (2015/2103(INL)), Committee on Legal Affairs, Rapporteur: Mady Delvaux (Initiative – Rule 46 of the Rules of Procedure; 2015 Joint Report of the Council and the Commission on the Implementation of the Strategic Framework for European Cooperation in Education and Training (ET-2020).

[20] A notable exception is a report on European Civil Law Rules in Robotics, EU Committee on Legal Affairs.

[21] Industry estimates project 20 million robot operators by 2050. A percentage will represent net additions to the workforce. Meanwhile the only justification for future 'full-employment' is past experience in which labor displacement had adjusted to other forms of employment. Any lasting effect from job displacement is dismissed off-hand with comment there will untold new jobs as there had appeared in the past. There is no account for the qualitative difference between 'machine' and 'robot worker'.

11 Europe's 2020 employment rate target of 75% reported to be attainable; deployment of 5G mobile communication systems reported to create two million jobs; 20 percent of the EU budget expenditure on climate-related action reported to yield jobs; Youth employment program goals reported to place all youth in jobs.

[22] Seventy-five percent of increase in productivity has ceased to be attributable to labor resources. The prospect (at-hand) of robot-driven overland trucks that may displace several million drivers, and that the *multiplier effect* from one *single* occupation displacement may further add 5-6 million to the unemployed figures is nowhere evident.

[23] See: The retail apocalypse has officially descended on America The Street.com 22Mrch. 2017, reporting closure of 2500 regional retail stores from major U.S. Retailers in 2017 with estimated lay-offs 250,000-300,000 employees as operations respond to technology and new business systems.

[24] International Federation of Robotics, ISO definition of 'robots' (8373).

[25] "We find that the contribution of increased use of robots to economic growth is substantial", Robots at Work, Georg Graetz, Guy Michaels, London School of Economics, February 27, 2015.

[26] Action by the European Central Bank (ECB) with injecting cheap credit (buy covered bonds, asset-backed securities, or corporate bonds below the deposit rate) and the EU Commission's European Social Fund finance numerous initiatives to stimulate industrial growth and human development. The aims, however, remain to revive a passing economic model for industrial activity and human resource application.

[27] A key challenge in the 2030 Agenda is achieving inclusive and sustainable growth and creating decent jobs, particularly for women and youth.

[28] In the home, one can fabricate materials ranging from titanium to human cartilage and produce fully functional components, including batteries, complex mechanisms, transistors, and LEDs.

[29] A Digital Single Market Strategy with financial gain for centralized infrastructure of large telecom operators and INTERNET access providers.

[30] Earnings per share, Return on Investment, Inventory Turn-over, etc. are the tests for efficient distribution of resources within the firm.

[31] The European Civil Law Rules in Robotics, Charter of Digital Fundamental Rights of the European Union, Tax Reforms in E.U. Member States: 2015 Report, Working Paper N.- 58, 2015, and Key Competences for European Citizens in the knowledge Society, European Commission, 20 December 2012. are early examples for a more encompassing Declaration on the pursued aims for a transforming 21st Century socio-economic Order. Proposal for a new European Consensus on Development Our World, our Dignity, our Future, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions.

[32] Goal for 2050 of Smart City Wien thus reads as follows: The best quality of life for all inhabitants of Vienna, while minimizing the consumption of resources. This will be realized through comprehensive innovations.

[33] See: Is It Time to Abandon GDP, Eduardo Campanella, Eurozone Economist, UniCredit, November 2016

[34] GDP/BIP remain metrics for measuring changes over time in the relative use of resources (e.g., energy units per $ 1 M growth in GDP).

[35] European Social Prohgress Index measures soicial progress for each region. Note, this index is not created for the purpose of funding allocation and does not bind the European Commission. For some period, the present and new series could function in unison. as compliment to bip/GDP.

[36] The Council considered the report: Key Competences for European Citizens in the Knowledge Society. ET 2020 identified the need for lifelong learning and mobility to become a reality with education and vocational training systems being more responsive to change and the wider industrial world.

[37] ESN is a non-profit organization supported by the EU Program for Employment and Social Innovation. European Commission does not directly finance entrepreneurs or social enterprises, but enables selected microcredit providers and social enterprise investors in the EU to increase lending.

[38] Incentives for stimulating socially responsible investment and tax policy was reported for Denmark, Spain, Italy, and the UK. Tax Reforms in EU Member States 2015, Chapter 1, p19.

[39] See: Tax Reforms in EU Member States 2014/2015 European Economy. Also, European Civil Law Rules in Robotics.
[40] VAT Rates Applied to Member States of the European Union, Taxud.c.1 (2017)
[41] A Broad Understanding of Innovation and Its Importance for Innovation Policy, SSIC Secretariat Working Paper 1/2014, Wolfgang Polt, Joanneum Research.
[42] According to Hannah Arendt, our capacity to analyze ideas, wrestle with them, and engage in active praxis is what makes us uniquely human.
[43] Contract for New Growth, European Commission. Recently measures were adopted to ease access to funding and increase the visibility of social enterprises through labels, certifications, and improvement in their legal status.
[44] Europe Tomorrow, AHOKA, HUB, NEW WORK CENTER, WISE as model social enterprises that through their social networks and professional assistance enable individuals to actualize social innovation. Within Austria the Work Integration Social Enterprises, (WISE), program in conjunction with AMA operates several social enterprises for disadvantaged individuals.)
[45] EU financial support for research and Innovation in Robotics (SPARC) aims to propel industry to the global 'top of the Robotics Class'. Ignored (overlooked) are stated aims to propel the application of robotics for domestic social innovation and social enterprises (e.g., teaching assistants). An EU public remains behind the global personal robot acceptance index.
[46] Such initiative would resemble the EU '2015 European Sustainable Development Network (ESDN)' and the initiative for deployment of a 5G mobile communication system across member states.
[47] Resembling the Charter of Fundamental Rights of the European Union specifying 'fundamental social rights' relevant to a new industrial era. These rights would be complimentary to 'civil rights' and liberties. "Social rights are a necessary complement to civil rights and liberties, since the latter cannot be enjoyed without a minimum of social security. This means that it is not freedom from the State that is achieved, but freedom with the State's help. These are, then, fundamental rights in the form of entitlements." Mark Eric Butt, Julia Kübert and Christiane Anne Schultz, Division for Social, Legal and Cultural Affairs. The issuance of Establishing a European Pillar of Social Rights, The Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions 26 April 2017, while commendable yet presents the social rights in the context of 20th century social norms and economic measures.
[48] It is in the child first becomes involved in social life, absorbs its values and standards of behavior, its ways of thought, language and certain value orientations. It is this primary group that bears the major responsibility to society. Its first duty is to the social group, to society and humanity. Man and Society, On the Human Being and Being Human, A. Spirkin.
[49] Startup Europe Week 2017, with hundreds of events in more than 40 countries, is a single annual event to promote entrepreneurship among younger persons but *primarily directed to industrial projects.*
[50] Foreseen is an endeavor similar to: *White Paper on the future of Europe: Avenues for unity for the EU,* the EU Commission hosting a series of 'Future of Europe Forums' across Europe's cities and regions.
[51] The Council considers the DRAFT Recommendations to the Commission on EUROPEAN CIVIL LAW RULES IN ROBOTICS and the CHARTER OF DIGITAL RIGHTS instructive and supports policies proposed for Commission consideration. The British Academy reports on Robotrics, AI and Society, with its recent statement, HUMANS MUST FLOURISH, as important contributions to public awarteness.
[52] Article 9 TFEU, the objective of a high level of employment must be taken into consideration in the definition and implementation of Union policies and activities. Among the principles and rights enshrined in the Pillar is the" aims at full-employment" Section 2.
[53] Annual Growth Survey 2015, Europe 2020
[54] US, UK and France far exceed the average calories consumption per capita of the globe. The prevalence of obesity has increased in countries like the United States and the United Kingdom in the last decade, with the U.S. reporting the highest rates of obesity in all OECD countries. An increased daily caloric intake has been positively associated with this international problem.
[55] When unemployment rises, there is often disagreement among economists about whether the causes are structural/macroeconomic, or whether it is adjustment to cyclical deflation unemployment. The U.S. economy was not especially healthy before the financial crisis began in late 2007. The economy was already on pace for its slowest decade of growth since World War II. The mediocre economic growth, in turn, brought mediocre job and income growth — and the crisis more than erased those gains.
[56] EU overestimated ICT jobs gap, EU-Observer, Brussels, 10. May 2017. For instance, there has been a steady downward adjustment from EU figures on requirements for ICT occupations extended to 2020.
[57] A Europe 2030 Strategy pursues policies for industrial innovation and expansion of market-based output (viz., growth).
displaced un-employed workers, youth including university graduates, females from households, drop-outs from the active labor market, extended employment for senior workers, and arriving immigrant and asylum workers
[58] See: Zivilgesellschatf und freiwilliges Engagement, Mikrozensus, WU, Vienna, BMASK Project; and, The Human Capital Report, World Economic Forum, derives a 'Human Capital Index' identifying the extent to which human capital potential has been optimized in a particular country.
[59] See: Creative Industries Report Austria. The social services initiative in Austria is processed through the Austrian Research Promotion aimed at promoting creative social industries.
[60] Social Progress Index instead of emphasizing traditional measurements of success like income and investment, measures 50 indicators of social and environmental outcomes to create a clearer picture of what life is really like for everyday people.
[61] Boston Consulting Group (BCG)estimated that by 2025 the adoption of advanced robot will boost productivity by up to 30 percent in many industry sectors, and lower total labor costs by 18 percent or more in countries such as: China, Japan, U.S., and Germany, HITC Business News, "Robots: The New Low-Cost Workers" 13 April 2015.
[62] The Council notes European Parliament, (EMPL) tender for the award of a framework service contract no. ip/a/empl/fwc/2018-001 for the provision of external expertise on regulatory and policy issues in the fields of employment policy (lot 1) - social policy and social protection (lot 2) . It is proposed the tender include the plans for a *permanent* tri-partite public-private Commission.
[63] The Council questions the applicability of experience with new *machines* on the status of the labor market. Robots are not machines. They are workers.
[64] Viz., how to prepare future generations of prime-age individuals for gainful and purposeful activity as artificial intelligence qualifies robot labor for increasingly diverse occupation.
[65] See: EU Annual Growth Survey, Europe 2020, "…outlines the main features of its new jobs and growth agenda".
[66] "Between mid-2014 - mid-2015, nine EU Member States reduced overall level of taxation on labor." Tax Reform in EU Member States 2015, Chapter 1, p. 17.
[67] TAX SHIFTS Taxations Papers, Working Paper Nr. 59 – 2015, Milena Mathé, Gaëtan Nicodème, Savino Ruà
[68] See: Tax Reform in the EU Member States 2015: Tax Policy Challenges for Economic Growth and Fiscal Sustainability, European Commission, September 2015.
[69] Based on the VAT collection figures available, the total amount of VAT lost across the EU-27 in 2015 is estimated at EUR 151.5billion a loss of 12% of the total expected VAT revenue. Study and Reports on the VAT Gap in the EU-28 Member States: 2017 Final Report TAXUD/2015/CC/131
[70] Tax Reform in EU Member States 2015, Chapter 1, p. 19.
[71] A nascent EU effort is noted: Responding to the Challenges on Taxation of Profits of the Digital Economy.
Blockchain is an incorruptible digital ledger of economic transactions that can be programmed to record not just financial transactions but virtually everything of value.
[72] Enterprises employing robot labor may be obliged to disclose: the number of 'smart robots' they use, the savings made in social security contributions by use of robotics in place of human personnel, an evaluation of the amount and proportion of the revenue of the undertaking that results from the use of robotics and artificial intelligence.
[73] Disclosures concerning a firm's ethical, social and environmental performance.
[74] Means for assessing the value for data transaction remain to be developed.
[75] In the U.S. 14 million workers are employed in firms that offer employee stock ownership plans.

[76] On happiness and human potentials: a review of research on hedonic and eudaimonic well-being, Ryan, R.M.. Annu Rev Psychol. 2001;52:141-66., Eudaimonic focuses on meaning and self-realization and defines well-being in terms of the degree to which a person is fully functioning.

[77] The European Quality of Life Survey (EQLS) has indicators which complements conventional indicators of economic growth and living standard such as GDP or income. The EQLS indicators are said to be more inclusive of environmental and social aspects of progress and taken up by public debate at EU and national levels in the European Union.

[78] "Wholesome Community Life' would include measures on prevalence of obesity, energy consumption per household, usage of public transit, reduction of waste produce, etc.

[79] "Everyone has the right to quality and inclusive education, training and life-long learning in order to maintain and acquire skills that enable them to participate fully in society and manage successfully transitions in the labor market." Chapter 1, The European Pillar of Social Rights.

[80] See, Recommendations for university teaching in times of Digitization for the individual level (lecturers / students / media developers) University teaching in times of digitization Challenges and recommendations, Position paper of the Austrian Research Association initial situation

[81] See: The Education Myth, Ricardo Hausmann, Project Syndicate, May 2015.

[82] The process of inflation of the minimum credentials required for a given job and the simultaneous devaluation of the value of diplomas and degrees.

[83] In citing *digital competence* among EU Competences for Lifelong Learning the definition is stated solely in occupation and employment terms. There is no reference to social and personal applications for individual beneficial application.

[84] Chinese company is recruiting workers for wind turbines it hopes to build in Wyoming, and will even pay for training.

[85] Artificial Intelligence Market Size to Reach $ 35,870 Million by 2025: Grand View Research, Inc. 07/26/2017 North American region is expected to dominate the industry due to high government funding, the presence of leading players, and strong technical base. Advances in image and voice recognition are driving the growth of the artificial intelligence market as improved image recognition technology is critical to offer enhanced robotics. International Data Corporation (IDC) forecast that global revenues for cognitive and AI systems will hit $12.5 billion this year, up a sizzling 59.3% on a year-over-year basis. In fact, for the next three years, the compound annual growth rate is expected to be about 54.4%. $25 billion by 2030.AI applications based on cognitive computing, artificial intelligence, and deep learning are the next wave of technology transforming how consumers and enterprises work, learn, and play."

[86] China is embracing robotics with the same full-on intensity that's made it a force in high-speed rail and renewable energy. Beijing economic planners view it as a stepping stone to a broader strategic goal: dominating emerging markets for artificial intelligence.

[87] Japanese government is in the midst of what it's calling a "Robot Revolution Initiative" -- a five-year-plan backed by more than 400 businesses and other organizations to grow its robotics and AI market to over $21 billion.

[88] Robots and Responsibility from a Legal Perspective Peter M. Asaro.

[89] Robots and Responsibility from a Legal Perspective Peter M. Asaro.

[90] Future-oriented higher education: Which key competencies should be fostered through university teaching and learning? Marco Rieckmann

[91] Good AI project mission is to develop general artificial intelligence - as fast as possible to help humanity. Started in January 2014, funded $10M. The R&D institute is now an international team of 20 research scientists and engineers based in Prague, Czech Republic.

[92] A recent report published by the Royal Society and the British Academy proposes principles to govern intelligent machines 'living' alongside humans.

[93] John Mackey, the co-founder and CEO of Whole Foods Market, has asserted that self-interest is not an adequate ethical basis for capitalism a