



European Parliament

Studio
Commissionato da

Rosa D'Amato

Europarlamentare

TARANTO

IL FUTURO È ADESSO



TRi.0

LA 3[^]
RIVOLUZIONE INDUSTRIALE
A TARANTO



TARANTO

TRI.0

THE FUTURE IS NOW

The Transition from the Second to the Third Industrial Revolution:
with a focus on Taranto

PROJECT SUMMARY



European Parliament

Study commissioned by
Rosa D'Amato - MEP

Made by **CETRI - TIRES** Institute
Third Industrial Revolution European Society



The old world

Nowadays we are experiencing the **crisis of the second industrial revolution**, an economic model based on fossil energy.

The pillars of this thought have collapsed in Taranto before any other industrial area in crisis.

Growth is not endless. The prevalence of industry over the other sectors is the past. The progress that requires the sacrifice of the environment and health in the name of economic activities is a postulate put on trial.

In Taranto, the second industrial revolution has dropped its load of **false promises**. The hopes it carried have expired. **The fossil cycle is closing**, leaving on the coasts, in the air, in the seas and in the aquifer, the slow and subtle decay of a life which is normal elsewhere, accompanied by social disintegration - fuelled by the local economic crisis - in a national scenario that does not guarantee any parachutes while the world scenario is always less comforting.

Going beyond is a generational, political, economic and social duty.

Taranto TRI.0 proposes an economic model capable of creating work and wellbeing (respecting the environment and health).

It has a twofold objective: providing a **new outlook on life** to today's workers who will be expelled from the deteriorating production processes and building innovative horizons for tomorrow's workers.

This new model is the **Third Industrial Revolution** and has the characteristic of being high in employment and low in capital intensity.

It is founded on **renewable energies**, which have very low marginal costs (almost zero once fully operational) and introduces the idea of a more democratic, truly open society, with widespread active participation, which wants the happiness of the human being rather than the maximisation of profit.

It passes through a large and renewed space for small and medium local businesses, removing them from the substantial aegis of the large multinational groups, tired actors of the international fossil economy.

The new world

TRI.0 IN BRIEF

TARANTO TRI.0

1. Pillars of the new economy

Among the rethinking strategies of the production system as a whole, a fundamental factor is represented by the green economy, and this is not a case.

In the numerous spaces left free by the cumbersome steelworks, but not only, Taranto could host world excellence centres for experimentation and applied research in the leading sectors of the Third Industrial Revolution, for example in the following sectors:

1. CIRCULAR ECONOMY

Incentives to reuse and promotion of new consumption models

2. SHARING ECONOMY

Supply chain recycling, food and tool sharing, time banks

3. DISTRIBUTED RENEWABLE ENERGY

Energy plans based on advanced solar and photovoltaic energy

4. TRANSPORTS, SERVICES, LOGISTICS

Shared and low-impact mobility

5. DIGITAL ECONOMY

Alternative currency, free software, "Open Source"

6. SEA AGRICULTURE AND ECONOMY

Relaunch of sectors through a sustainability model

7. TOURISM AND CULTURE

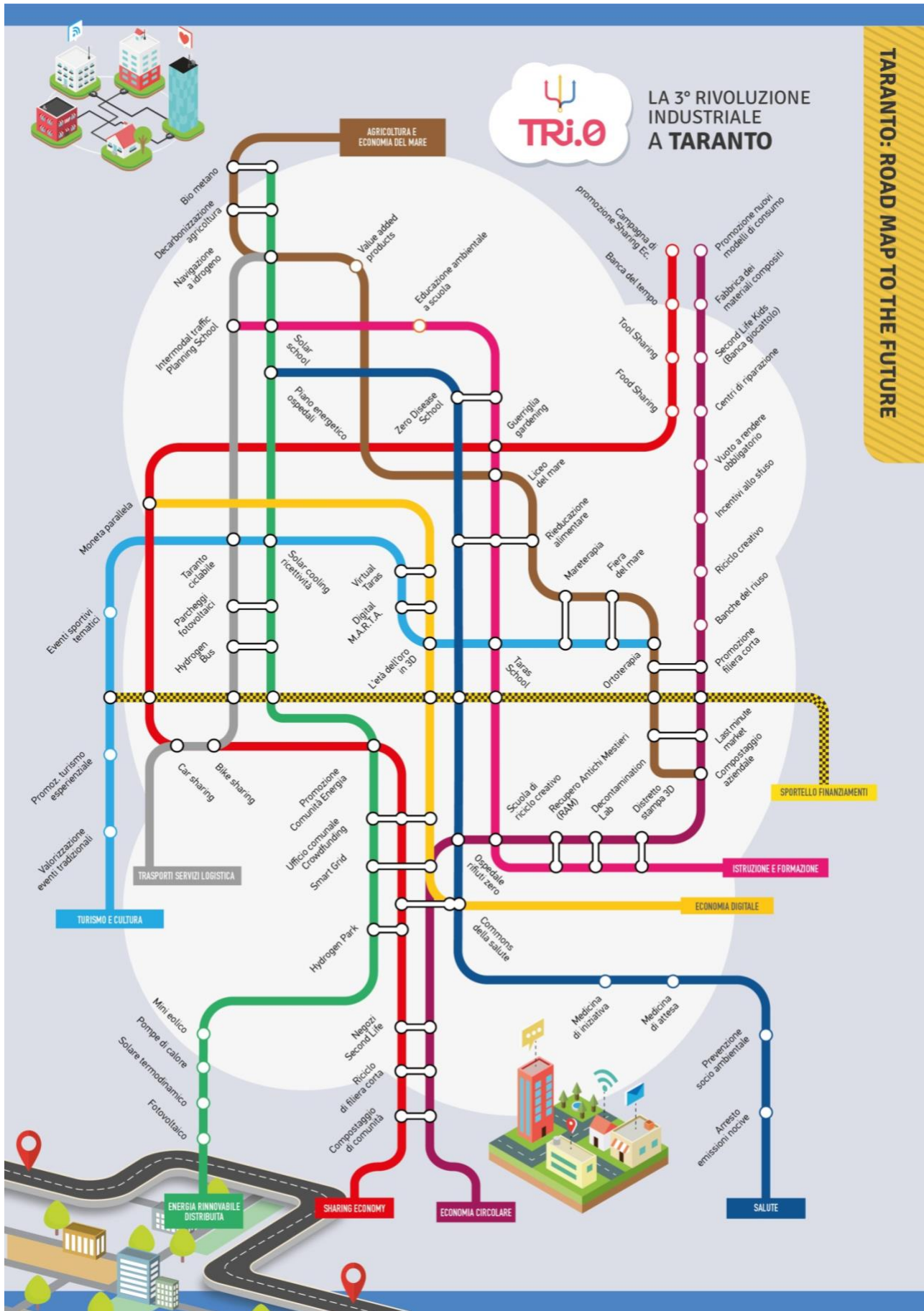
Increasing the territorial appeal by exploiting its attractive potential

8. EDUCATION AND TRAINING

New didactic models by TRI

9. HEALTH

Zero disease and prevention practices distributed throughout the territory



2. Occupational hypotheses

Scenarios for Taranto¹

	2017	2030	2040	2050 ²
SCENARIO 1: REFERENCE				
GDP³ EVOLUTION IN BILLION EUROS	3,5	3,9 ⁴ (2.174 workers more) ⁵	4,2 ⁶ (4.636 workers more)	4,5 ⁷ (7.000 workers more) ⁸
SCENARIO 2: INCREASING IMPACT OF ENERGY PRICES (BAU)				
GDP EVOLUTION IN BILLION EUROS	3,5	3,7	3,9	4,4 (4.200)
NET CHANGE IN THE EMPLOYEES NUMBER¹¹	0	- 1.129	- 2.418	- 2.800 ¹²
SCENARIO 3: THIRD INDUSTRIAL REVOLUTION (PESSIMISTIC HYPOTHESIS)¹³				
GDP EVOLUTION¹⁴ IN BILLION EUROS	3,5	3,9	4,3	5,2 (16.421)
NET CHANGE IN EMPLOYEES NUMBER¹⁵	0	+ 3.427	+ 4.184	+ 9.421
EMPLOYEES NUMBER¹⁶	12.750	+ 25.200	+ 57.000	+ 103.500 ¹⁷
SCENARIO 4: THIRD INDUSTRIAL REVOLUTION (OPTIMISTIC HYPPTHESES)¹⁸				
GDP EVOLUTION¹⁹ IN BILLION EUROS	3,5	4,1	4,7	5,5 (17.363)
NET CHANGE IN EMPLOYEES NUMBER	0	+ 3.599	+ 4.573	+ 9.960 ²⁰
EMPLOYEES NUMBER	17.000	+ 33.600	+ 76.000	+ 138.000 ²¹

1 CETRI-TIRES data processing based on the method of calculating the occupational intensity by the TIR Expert Team of the Nord Pas de Calais.

2 Workers as accumulated net profit over the period.

3 In constant billion Euros.

4 $[3.5 \text{ bln} \times 0.8\% \text{ per annum} \times (2030 - 2017)] + 3.5 \text{ bln} = 3.864 \text{ bln Euro by 2030}$

5 Data extrapolated in proportion to the masterplan figures.

6 $[3.864 \text{ bln} \times 0.8\% \text{ per annum} \times (2040 - 2030)] + 3.864 \text{ bln} = 4.173 \text{ bln Euro by 2040}$

7 $[4.173 \text{ bln} \times 0.8\% \text{ per annum} \times (2050 - 2040)] + 4.173 \text{ bln} = 4.50 \text{ bln Euro by 2050}$

8 Source: http://cettri-tires.org/press/?dl_id=45 About 7,727 for every reallocated billion. Rounding down by default in economy pejorative hypotheses.

9 Business as usual. The increasing impact of fossil fuels energy prices will destroy rather than create new jobs.

10 Compared to the reference period, they are affected by the increase in the cost of traditional energy which clearly affects GDP.

11 Differential with the reference scenario. Gradually decreasing estimates starting from the 2050 scenario.

12 40% increase in the cost of energy from fossil sources = 40% less jobs. (= 7,000 x 40%) it is assumed that 40% of the increase in energy costs by 2050 will affect jobs).

13 It is not affected by the increase in the cost of energy and therefore sums up the erosion of the GDP of scenario 2 to the reference GDP of scenario 1, with the difference that by 2050 the technologies of T.R.I. in addition to not being subject to increases in the traditional energy cost, will also produce energy themselves.

14 Annual growth of 0.8%, without considering the increase in the cost of traditional energy (which is gradually falling) and also estimating the green energy produced.

15 Differential with the reference scenario. Decreasing estimates starting from the 2050 scenario.

16 The applied method follows a comparative analysis, therefore in the pessimistic hypothesis, both for lower GDP and for "no ancillary activities" conditions; the number of employees although constantly growing thanks to the T.R.I. impact, remains undersized by about ¼ compared to the optimistic hypothesis illustrated.

17 Against a cumulative investment of around 3.8 billion euros.

20 presupposes the development of all those so-called "ancillary activities" with a high occupational intensity and lower financial density that are in the process of evolution but are expected to be well stabilized during the reference period and which can therefore justify a more positive projection of the employment data.

21 Growth progressively higher than 0.8% thanks to the ancillary activities.

“Optimistic” hypothesis

Summary table

Investments	Jobs	Investments	Jobs	Investments	Jobs	Investments	Jobs
2020	2020	2030	2030	2040	2040	2050	2050
32,8 mln	17.000	50,3 mln	33.600	73.5 mln	76.000	164,5 mln	138.000

Analytical table

SECTOR	Investments by 2020 in mln €	Jobs 2020	Investments by 2030 in mln €	Jobs 2030	Investments by 2040 in mln €	Jobs 2040	Investments by 2050 in mln €	Jobs 2050
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ENERGY EFFICIENCY

IMPROVING THE EFFICIENCY OF OLD BUILDINGS	1	1000	1,5	2000	2,5	5000	5	8000
ENERGY RESTRUCTURING	1	500	1,5	1000	2,5	3000	5	5000
SOLAR COOLING OF TOURIST PLANTS	0,5	500	1	1000	2	3000	4	5000

OTHER

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DISTRIBUTED RENEWABLES

SOLAR THERMAL	0,2	250	0,4	500	0,6	1000	1,5	2000
COMMUNITY VERTICAL MINI WIND	0,2	250	0,4	500	0,6	1000	1,5	2000
INDUSTRIAL PHOTOVOLTAIC	0,5	250	1	500	1,5	1000	3	2000
HEAT PUMPS AND LOW ENTHALPY GEOTHERMY	0,5	250	1	500	1,5	1000	3	2000
DECARBONISATION OF AGRICULTURE	1	250	1,5	500	2	1000	4	2000
PHOTOVOLTAIC IRRIGATION	0,5	250	1	500	1,5	1.000	4	2000
SOLAR REFRIGERATION	0,5	250	1	500	2	1000	5	2000
HYDROGEN / ELECTRIC MOVEMENT MEANS	2	250	2,5	500	3	1000	5	2000
ANAEROBIC SHORT SUPPLY CHAIN BIODIGESTERS	1	250	1,5	500	3	1000	5	2000

OTHER

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POSITIVE ENERGY BUILDINGS	1	250	1,5	500	2	2000	5	4000	
HYDROGEN AND STORAGE SYSTEMS	1	250	1,5	500	2	2000	5	4000	
SMART GRID AND ENERGY INTERNET	1	250	1,5	500	2	2000	5	4000	
ZERO EMISSIONS TRANSPORTS	1	250	1,5	500	2	2000	5	4000	
CIRCULAR ECONOMY									
BANKS OF REUSE	0,5	400	1	700	1,5	3000	4	5000	
DIGITAL ECONOMY	1	1000	1,5	1500	2,5	5000	7	7000	
CIRCUITS OF SHORT CHAIN RECYCLING	1	1000	1,5	1500	2,5	2000	7	4000	
SECOND LIFE SHOPS	0,5	500	1	750	2	1000	5	2000	
REPAIR WORKSHOPS	0,2	500	0,5	750	0,7	1000	2	2000	
OTHER									
RE-OPERATION OF THE ECONOMY									
INDUSTRIAL RECONVERSION	2	1000	2,5	2000	3	5000	7	7000	
3D MANUFACTURE	2	1000	3	3000	4	5000	8	7000	
INTERNET INFRASTRUCTURE OF THINGS	0,5	500	1	1500	2	3000	6	5000	
TOURIST OBJECTS	0,1	500	0,2	700	0,5	1000	2	2000	
INDUSTRIAL COMPONENTS	0,5	500	1	700	1,5	2000	4	4000	
SCHEDULED OBSOLESCENCE REPAIRS	0,1	250	0,2	500	0,4	1000	5	2000	
OTHER									
AGRICULTURE AND SEA PROMOTION									
SHORT CHAIN PROMOTION	2	600	3	1000	4	3000	7	5000	
SEA ECONOMY	2	1000	3	2000	4	3000	8	5000	

HISTORY AND CULTURE ECONOMY	2	500	2,5	1000	3	3000	6	5000
FARMER MARKET	0,5	500	0,7	1000	1	2000	1,5	4000
G.A.S.	0,5	500	0,7	1000	1	2000	1,5	4000
LAST MINUTE MARKET	0,2	250	0,4	1000	0,7	1000	1,5	3000
FOOD PARADE	0,2	250	0,3	500	0,5	1000	1	2000
LOCAL PROCESSING OF PRODUCTS	0,6	250	1	500	1,5	1000	3	3000
OTHER								
TOURISM PROMOTION								
DESEASONALISATION	0,5	250	1	500	1,5	1000	3	2000
PRODUCTS ACADEMIES	1	250	1,5	500	2	1000	4	3000
ORTHOTHERAPY	2	250	2,5	500	3	1000	5	3000
TOTAL	32,8 mln	17.000	50,3 mln	33.600	73.5 mln	76.000	164,5 mln	138.000

Conclusions

TARANTO TRI.0 aims to be the **first step** leading to a real economic reconversion of Taranto territory, with the possibility of being a model to be followed for the territories with similar problems. It is not only a simulation on paper.

The next step, in fact, was the creation of an **Observatory** which is both a fulcrum and a driving force for the realisation of the ideas present in this Study, as well as a breeding ground for further proposals by the stakeholders who are part of it, in line with the principles of the Third Industrial Revolution.

At the moment the Observatory has been joined by Professional Order of the province of Taranto, bodies that represent the interests of categories including merchants, mussel farmers, artisans, farmers, tourism operators and finally Euro-designers and individual entrepreneurs.

The Observatory, which has an ethical charter, meets periodically in plenary assemblies and in assemblies of the individual working groups, each of them dealing with and following a specific project.

The high education project represented by the Taras School, which aims at disseminating the corporate culture and train specialised technicians in the fields of TRI, and the 3D printing district development project, are progressing rapidly; added to this, the new working group on the blue economy component which is working on the hemp supply chain above all for the use of natural substances replacing plastic in the fishing and mussel farming chain.





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Trizero.taranto.it

THE OLD WORLD THE NEW WORLD

The transition from the Second to the Third Industrial Revolution with focus on Taranto.

A premise becomes necessary and inevitably becomes the key of an articulated study, full of ideas, based on profound reflections on the possible, leavened on the concepts of **possible and necessary**, fueled step by step by the desire to set up a new horizon.

Taranto TRI.0 is the synthesis of this concrete horizon, the analysis and the proposal of how the steel industry, as we know and suffer it, is the past that still looms even if its structural crisis is objective, beyond the damage to health and the environment that the production logics impose every day.

Taranto TRI.0 recognizes the symptoms of an irreversible socio-economic pathology. We need to look beyond those fumes. In this case the metaphor of the "long breath" is really appropriate and adherent to the proposal that we detail here as if it were a long journey towards TOMORROW.



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