DATI ALLA MANO

I PODCAST

Istat
Istituto Nazionale di Statistica

ONE HUNDRED YEARS OF TRANSPORT AND COMMUNICATIONS

Imagine Italy in 1926 – the year Istat was founded. And imagine having to travel from Rome to Milan. You would certainly have looked for a direct train. Well, there would have been no more than three options, and the journey would have taken you 13 or 14 hours.

I am Cristiana Conti, and this is Dati alla mano (Data at Hand), a podcast by Istat, the Italian National Institute of Statistics, where I work in the Directorate for Communication, Information and Services to Citizens and Users. This initiative is part of a public communication project.

The story we will tell in this episode concerns the evolution of transport and communications; we will travel by car, train, and plane, and move from handwritten letters to fast internet connections. I remind you that all Data Stories are available on our website, on the pages dedicated to Istat's Centenary.

Only three direct trains and a whole day to travel from Rome to Milan. Practically an odyssey. Today, there are about 130 trains a day covering that route, and if we choose one that makes no intermediate stops, the journey takes less than three hours. One hundred years have passed since 1926, but it feels like a thousand. This is because, in the aftermath of unification, Italy was fragmented – partly due to its geographical conformation – and in any case, more backward than other European countries in terms of communication infrastructure. Connections between cities were limited to the Po Valley, and the north-south backbone was completely absent. To give you an idea, we had 2,500 km of railway, while Germany had 11,000 km. Not to mention the United Kingdom, which had 14,000 km. Even France, less endowed with infrastructure, had almost double our provision.
But how long did it take to develop a real railway network? I asked a researcher expert in transport and communication statistics: **Fabrizio Arosio**

Cristiana. Welcome, Fabrizio.
Fabrizio. Thank you and hello everyone.
C. We started late, as we saw. But then, how quickly did we manage to develop a railway network worthy of the name in Italy?
F. I'll answer you with the data: we had 2,500 km of railway in 1861, but by 1905 the newly-formed Ferrovie dello Stato (State Railways) were already managing 16,000 km…but then during the Second World War many were destroyed and had to be rebuilt. Today the network again totals just over 16,000 km, with an additional 4,000 km or so that are not currently active because they are undergoing modernisation.

C. In any case, a remarkable and rapid growth.
F. Yes, and we were pioneers in the electrification of lines – which means less pollution and greater performance – today three-quarters of the network is electrified, and consider that in 1939 the first electric train in service between Milan and Bologna reached an average speed of 203 km per hour, a record in its category.
C. Wow, high-speed rail ahead of its time.
F. Almost, today high-speed rail travels at least 250 km per hour. By the way, it was established in 1977 with the Rome-Florence direct line and today, overall, it carries about 40% of passengers... even with only 1097 km dedicated, which is 6.5% of the total network, but – it must be said – it does not extend beyond Naples in the south.
C. Indeed... but in terms of high-speed rail, where do we stand in Europe?
F. Not bad, especially if we consider the density relative to the territory, meaning km of high-speed railway per km2 of territory. We are above the European average, behind Spain and France, and ahead of Germany. You know, in France, investment in high-speed rail started earlier.
C. With the famous TGV train network.
F. Yes, while the Spanish started after us, but with massive investments; today in Spain almost 20 per cent of the total railway network is exclusively dedicated to high-speed rail.
C. Interesting, but apart from trains, how do we travel and how have habits changed over time?
F. Well, cars certainly became widespread during the economic boom years. Consider that in 1951 there were 9 cars per thousand inhabitants, in 1961 there were 48, and in 1971 this reached 209.
C. And motorways also grew during the same years, I imagine.
F. Between the '60s and '70s, the extension quadrupled.
C. Goodness. And anyway, we know that today Italy is the European country with the highest number of cars per thousand inhabitants.
F. That's true, we have more than 700 when in France, Germany, and Spain there are between 550 and 600…
C. Of course, it's a record we pay for with traffic and city pollution…but tell me, when did we start moving 'by air' too??
F. Well, for significant air traffic, we have to wait for more recent times. It was the development of charters, but even more so the birth of low-cost companies that allowed everyone to fly.
C. Can you give us some numbers?
F. Certainly: in 1954: 800,000 passengers departed from or arrived at Italian airports. In 2024, they are 218 million.
C. Well, quite a leap! Thank you Fabrizio, you've given us some really interesting information.
F. Thank you all and greetings to everyone.
C. I'd like to change the scenario and go beyond national borders. The other day I was looking at the supermarket shelves, full of products from all over the world, and I wondered: how does all this merchandise actually get into our hands? I'll take advantage of the presence of **Andrea Amico**, another researcher expert in these topics, and I'll put the question to him. Hello Andrea.
Andrea Hello everyone. That's a question we rarely ask ourselves, but the answer is almost always "by sea". Consider that almost 80% of the goods needed for our consumption and production pass through ports.

C. Not bad! But is it the same for our European neighbours?
A. It depends on the geographical position. For us, Spain and France, maritime transport is prevalent. In Germany, the largest volumes move by road, precisely because of its central geographical position in Europe.
C. But has freight traffic in our ports always been intense?
A. In reality, it reflected the trend of the national economy. Also consider that in 1938 there were only 12 main ports in Italy; today there are 58.
C. And can you give us an idea of how much the volume of goods has grown?
A In a hundred years, we have gone from 31 million tonnes in 1924 to almost 500 million in 2024. As I said, growth has kept pace with the economy, and we experienced sharp slowdowns during the 1973-74 oil shock, then due to the 2008 recession, and again because of the COVID-19 pandemic.
C. Still on the topic of connections, but moving on to those that arrive directly at our homes. I still remember the emotion of receiving a handwritten letter... today I only find bills or advertising in my letterbox! But what happened to paper mail? I still tend to send postcards to friends, even if sometimes I deliver them by hand...at least I write them, but I have the impression that nobody writes them anymore today. Am I right?
A. The data confirms your feeling: personal paper correspondence is more or less a thing of the past. Consider that in 1926 – the year Istat was founded - a quarter of the population was still illiterate, yet 2 billion letters and postcards were sent. The peak was in 1989: that year, 8.6 billion various pieces of mail were sent. Today, volumes have plummeted, and we are back to exactly the level of a century ago. And almost all communication is commercial.
C. And whose responsibility is it?
A. Initially, the telephone. The landline, I mean. In the early twentieth century, it was a luxury, but with the economic boom, it spread rapidly. The historical peak was in 2001, with 47.7 landline subscriptions per 100 people. Then came what we call technological substitution...
C. The mobile phone, I imagine.
R: Exactly. After 1995, mobile phones very quickly became a mass consumer item.
C. And being able to communicate at any time and in any place has become a necessity. We can no longer do without it.
R. Indeed. Between 1997 and 2007, mobile network subscriptions increased from just over 20 to 152 per 100 people. This means that we Italians ended up owning, on average, more than one SIM card each. Perhaps one for work and one personal.
C. So, in Italy, there are more SIM cards than inhabitants! But how do we use them?
A. We browse: the network is the "fourth revolution" of telecommunications. Consider that between smart working and instant messaging apps, in just five years, between 2019 and 2024, the average daily data traffic on the fixed network has doubled, and that on the mobile network has quadrupled. Incidentally, we in Italy are among the biggest users of mobile internet in Europe; we consume much more than the French or Germans.
C. Good heavens!
A. Yes, our daily data traffic is double that of Spain or Germany. The fact is that our mobile network was quite widespread from the start, so massive usage quickly spread... then in recent years there has been investment in 5G, and it has become more efficient.
C. And I've read that work is underway to upgrade the fixed network too; are we saying goodbye to old copper cables?
A. Yes, although they are now residual. However, fixed broadband subscriptions are still not very widespread here, with about 29 per 100 inhabitants, whereas in Spain, France, and Germany, they are 38-39.
C. Meanwhile, the mobile phone is our digital "companion".

A. Not only that. There's another silent world that communicates online: these are Machine-to-Machine SIMs, which allow objects to exchange information with each other. It's the technology behind home automation in our homes, connected cars, or large machinery in factories.
C. Like an alarm that communicates with a smartphone or smart meters?
A. Exactly. And it's a phenomenon that has exploded in a very short time: in Italy, we have gone from 7 SIMs of this type per 100 inhabitants in 2010 to 52 today. If we look at Europe, Germany leads with 88 SIMs per inhabitant, a sign of a heavily digitalised industry, but we have grown a lot and today we surpass both France and Spain.
C. Thank you very much, Andrea, for being with us and guiding us on this journey through ports, cables, and gigabytes.
A. Thank you and goodbye.

So, from handwritten letters to objects that communicate with each other... we have come a long way. And technological evolution does not stop, but continues to change the way we live and work. I am Cristiana Conti, and this was Dati alla mano (Data at Hand), a podcast from the National Institute of Statistics.

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Are there any topics you would like to explore further? Write to me at datiallamano@istat.it

Andrea Amico, Fabrizio Arosio, Manuela Bartolotta, and Christian Spazioso worked on this episode