

MASSIMO TAMIATTI

UNUSUAL PROFESSIONS

New digital worlds



What is it? This is a scientific dissemination website that studies the impact of new technologies on the world of work. Changes today are very fast and exponential. Professions are not static but very dynamic, so the ongoing evolutions can make them obsolete, transform them, or create entirely new ones. What skills will be necessary to face all this? Upskilling and reskilling, but not only.

Why? After 25 years of research, I have realized that to go beyond the boundaries, numbers are not enough. Traditional approaches are obsolete and tied to the old way of doing research. Today, we need to study the weak signals that are right before our eyes but that we see without really noticing. Stopping to consider these signals and imagining multiple possible futures will be the task of Frontiere. Traditional sources respond in real-time but only photograph the present. Today, however, there is a need to make predictions at least five years ahead, without neglecting the past and without forgetting that every topic addressed has a history to consider.

Who is it for? It's easy to make long-term predictions that cannot be verified. I am convinced that the research world needs an immediate confrontation with the world of education and orientation, and with young people who risk studying for professions that may not exist in a few years. They will be here to exchange opinions with the undecided, the disoriented, and those who intend to start over. Young people need to understand that there is a world above and a world below in the job market. A world of those who program algorithms (few and well-paid) and those who work for algorithms (many and poorly paid). We need to understand what to do to escape a job market that risks condemning young people to €1,000 per month salaries for life.

How will it be? Each topic will be addressed with light publications, with a strong emphasis on temporal depth. The publications will be accompanied by short videos (elivri) that get straight to the point. There will be an open chat for young people on the future scenarios of work, the profiles required, and the necessary skills.



LinkedIn: <https://it.linkedin.com/in/massimo-tamiatti-77605168>

Facebook: <https://www.facebook.com/profile.php?id=100006516969397>

Telegram: <https://t.me/frontieretecnologialavoro>

Unusual Professions: New Digital Worlds

The phenomenon that we know

It was 2004 when "Il Sole 24 Ore" dedicated its first articles to video games, written by Luca Tremolada. Even back then, it was clear that video games were more than just a pastime for children (1). It was the first time a national newspaper had covered gaming. About ten years later, the video game market surpassed that of cinema, TV streaming, publishing, and music. In a short time, starting from 2020 with the onset of the pandemic, it became...

Video games represent multiple aspects: it is important to consider that many of the innovations we take for granted today come from this sector. Furthermore, Artificial Intelligence, which is widely discussed today, has an application in video games because it allows characters to move autonomously. Video games are what music cassettes and vinyl records were in the past. In other words, they serve as a repository for our memories. Video games have been around for 40 years, so they concern not only older generations but also younger ones. However, we must accept and recognize that some of us continue to play while others who stop still fondly remember certain role-playing games, certain adventures, certain synthetic worlds where they spent a lot of time. The video game is not confined solely to entertainment, as it is found in the form of "gamification" to make work processes more agile and enjoyable. It is used by human resources in offices to motivate employees and even to design services. Serious games for educational and didactic purposes are also becoming increasingly widespread. These serious games are a valuable tool for teaching and learning grammar and other language skills. For example, a video game called "Ross and the Grammar Fog" (4) was developed to help children learn the basics of Italian grammar. In essence, this is a generation that plays, competes, and has goals to achieve. The very grammar and mechanics of video games are entering the world of work and productivity, involving both young people and previous generations (5).

The Video Game Market

The global video game market is a constantly growing sector of great economic relevance. Currently, the overall value of the video game industry approaches \$200 billion, involving a wide range of audiences estimated at 3.2 billion players (6). This world involves a large variety of audiences, from gamers to developers and casual spectators. The video game market is a sector characterized by significant changes and growth rates, linked to continuous technological evolution: today, games are played not only on traditional consoles (7), PCs, but also on "mobile platforms" (smartphones and tablets), as well as on social networks. The growing spread of "mobile" and "social" channels has led to cross-sectional growth in the video game market in terms of gender and age groups, leading to the development of products aimed at an increasingly heterogeneous audience, with new and different types of games compared to past years. This sector is characterized by broad participation regardless of gender and age groups. Often nowadays, one might enter a "chat game" (9) and hear players speaking in different languages—English, Japanese, Russian, Portuguese, etc., all together simultaneously. Video games are a great example of globalization: the biggest titles attract players from all over the world (10). Moreover, the Asia-Pacific region generates the highest global revenues, with China confirmed as the largest global video game market (11). During the pandemic, there was a massive digital expansion, and since people were confined to their homes, they spent a lot of time playing. The return to normality has clearly reduced the time dedicated to this activity (12). Not only have the numbers changed, but the perception surrounding video games has radically shifted. With the pandemic, it became primarily a tool for socializing. The Italian consumer has learned to see it as an interesting and useful source of entertainment (13). Since 2017, due to the pandemic, the market has almost doubled. Some analysts have scaled back post-Covid growth, but the data remains impressive. Especially when looking at the details, we discover that mobile games, classified as casual social games, are driving the sector's revenue growth. This is the first discontinuity compared to the past. Video games are becoming easier to use, with low entry barriers and mostly "free-to-play," meaning you can play for free but progress faster by purchasing upgrades and new tools during the game.

Fornite example(14)

Video games are the most advanced form of entertainment but, at the same time, an expression of contemporary culture, the pinnacle of artistic and technological innovation, and an opportunity for social and research skill development. The number of companies in this sector is increasing year by year and could become increasingly important for the future of our country. The video game industry, even in Italy, is experiencing significant growth.

The Spread of Video Games in Italy

A study showed how video games are becoming increasingly widespread in Italy, although mass communication often presents a very different perception. Our perception of the spread of video games is often distorted by various factors, as national media considers it merely a "social bubble" (15). For this reason, responses vary greatly; some think everyone has fallen in love with gaming and dedicates a lot of time to it, while others view this world as it was twenty years ago—a niche phenomenon. Clearly, this perception changes based on age and geographic location of the user. The only thing that can bring everyone to agreement are data, obviously based on serious and meticulous research, which provide results that are hardly debatable. The data emerging from the latest report on the Italian video game industry, drafted by IIDEA (the category association of the video game industry in Italy), are rather positive. The report notes that the contraction of the market in the post-pandemic period was relatively mild and highlights how the expansion of the sector, caused by the boom of 2020, did not suffer significant setbacks and continues with a certain solidity. In 2020, there was a recorded increase in turnover of 21.9%, followed by a more modest increase of 2.9% in 2021. Instead, during the post-pandemic period, we witnessed a physiological contraction of 1.2%. This data shows that there was no significant decline in turnover and consequently no significant reduction in the spread of video games. The total turnover stands at around 2.2 billion euros. Of the entire amount, 81.5% comes from software sales, generating 1.791 billion euros, while hardware, generating 409 million euros, represents 18.5%. In the former case, there was a first drop of 0.5% compared to the previous year, while in

the latter, a more marked decrease of 7.7%. The number of players in Italy is 14.2 million (32.2% of the population), so 1 person out of 3 is a video gamer. The decline compared to 2021 is 8%. However, even in this case, a positive reading can be made, because if the boom was in 2020 for the reasons already highlighted, the return to normalcy does not indicate a significant reduction in the user base in this market. The pandemic produced two positive results: it expanded the user base and stabilized the market in this sector. The average age of Italian video gamers is 29.8 years. These are mostly experienced players who have a wide range of interests in this sector and who have cultivated this passion for a long time. It is certainly an interesting and auspicious data point for the evolution of the Italian video game industry. 80.9% of video gamers are over 18 years old, and only 19.1% are minors (6-17 years old). Regarding the devices used for gaming, the majority of players use mobile devices; this fact is not surprising given that it is common in all markets. Indeed, a solid 69.7% (9.9 million) play on mobile devices, 48.8% (6.5 million) play on "consoles," while 38% (5.4 million) play on PCs. The female audience represents 42% of the total, with an average age of 30.6 years. The average weekly playtime is set at 7.52 hours, a value still higher than in 2019. All these data tend to consolidate the idea of an increasingly performing market, constantly increasing in turnover, a sign of a growing industry (16). There are 160 video game companies nationwide, according to the IIDEA report. A few years ago, there were far fewer. 9% of them are less than a year old. Pre-existing companies are growing, as is the number of new ones. All contribute to increasing the total turnover, which for software alone stands between 130 and 150 million euros, with products sold worldwide. In recent years, the number of professionals in the sector has increased by 50%, rising from 1,600 to 2,400 people. According to the president of IIDEA, the value of Made in Italy applies to video games as well. Titles developed in Italy now have well-defined and distinctive characteristics. When we go abroad, the Made in Italy video game takes on cultural and artistic value. Italy's video game scene demonstrates that the sector in our country is rich in interesting proposals and is continuously growing. The data has shown that in 2021, the market moved significantly in our country, registering a turnover of products, both software and hardware, of 2.2 billion euros, up +2.9% compared to 2020, a period of boom due to quarantine during the pandemic (17). Hearts & Science recently conducted an interesting study to understand the habits of five European

countries: Italy first, along with Germany, France, Spain, and the United Kingdom. The goal was to understand how widespread gaming is socially and what the perception of video games is in our country, where it is often still considered, especially by more traditional media such as television and radio, less important than it actually is. The study focused not only on how many people play video games but also on the habits of those who do, dividing the results by generation. No distinction was made between regular and occasional players: even someone who frequently plays a simple "Candy Crush" (18) on their smartphone is considered a full-fledged video gamer. According to the collected data across Italy, Spain, Germany, France, and the UK, there are 123 million players, about 38% of the population. In 2022, video games in Europe generated nearly \$33 billion in revenue, representing 18% of the global share. It is evident that video games are now an integral part of the daily habits of a large portion of the European population. Analysis of these results revealed several common points, both among different European countries and among different generations, leading to some conclusions. Gaming is becoming increasingly inclusive and transcends generations. Essentially, one person out of three is a video gamer. Moreover, video games are not only a source of entertainment but are also educational. Obviously, fun and passion remain the predominant values among the reasons for playing, accounting for 54% and 32%, respectively. However, the use of video games as a learning tool is becoming increasingly widespread, especially among Generation Z (19), a significant segment of Italian users at 21%, followed by France at 20%. Another interesting data point concerns the appeal of video games. Research has shown that the hours after 6 PM are the preferred time to engage in video games, practically for all generations, with a peak between 9 PM and midnight, the so-called "prime time." Video games are increasingly replacing traditional media like television, a trend likely to grow in the future. Each generation has its favorite game that defines it, a peculiarity found only in video games and not, for example, in films or music, since there is no single film or song with which a generation can identify. Therefore, far from being an activity tied to social stereotypes, gender, or sex, the analysis of the data shows that gaming is transversal, popular, and fully assimilable into mass culture: everyone plays, including those who might seem less inclined. Gaming is becoming a kind of universal language, acting increasingly as an agent of integration and actively contributing to the cultural rapprochement

of European peoples, developing a European "habitus" (20) in terms of leisure. Gaming is the "Games without Frontiers" of the new decade, capable of uniting people of different languages and cultures.

Transition

Important changes are occurring in the video game sector. We are facing a model of video game production that is slowly changing. The old model, which referred to intellectual property, the author, the writer, and all the specializations necessary to create something completely different. This is probably why the video game industry is going through a period of questionable sustainability in its productions, especially in stark contrast to the evolution seen in all other media (cinema, television, etc.). In fact, the author, the writer, the creator of the narrative works more within large studios (in the '50s, big studios had to bear all the costs, starting with the equipment and cameras needed for production). Today, work is done within an "outsourcing" model, where cameras are rented and casting is entrusted to a team that also handles post-production. Thus, various companies are involved in the final product, but in fact, a director is no longer an employee of a studio; the same goes for actors and writers, who sell the rights to their books for film adaptations. This model not only offers economic advantages, primarily reducing fixed costs, but also in terms of responsiveness and timing. The ability to adapt to an unpredictable entertainment market is crucial! Moreover, it offers creative advantages: the separation of the author from the production side allows for greater freedom and tighter control over content. Film themes are transversal, while those of video games are still very tied to target audiences. Authors are increasingly separating themselves from production, following a trend similar to what is observed in Japan, where many big names who once worked for corporations now operate as external directors on projects. This is a transitional period that will likely last several years, perhaps a decade. So, it consists of freelancers and authors collaborating with organizations equipped with production and technological capabilities to produce the final product. The video game industry has its roots in software and engineering, and certainly not in storytelling. One of the distinctive features of video games is their complete

closure compared to other media. This indicates how this sector has gone from being at the forefront to becoming outdated. It must be understood that the technological barrier to entry is still very high. While it is easy to sit in front of the TV and quickly access Netflix or Amazon Prime without knowing how it works internally, buying a console or PC, creating an account, downloading updates and games still requires a certain level of technical familiarity and a considerable investment. This process is more suited to a teenage and tech-savvy generation rather than a more mature audience. While a TV series can easily reach different age groups, the video game audience remains concentrated between 15 and 25 years old, with themes suitable for this age group. However, we are witnessing a change, as for the first time in this sector, we have fifty-year-old authors, whereas in the past, they were predominantly in their twenties or thirties at most. It should be remembered that the video game industry, as we know it, has only a 40-year history. Certainly, the pandemic brought this sector double-digit growth, slightly reducing the technological barrier. This was not due to the merit of those producing the console, since we continue to play with a controller that is not exactly intuitive for everyone, but because space was given to simpler games requiring less skill. The fact that, according to estimates, there are 2.4 billion people playing worldwide is not entirely true. Surely, there are people who open a video game app at least once a month, but the actual number of players is in the hundreds of millions, which is still not negligible. It remains a niche market, as it is difficult to sustain major productions that require time and resources. What we are seeing is a reduction in diversity and concentration of content. Focus is placed on a few big games rather than many (21). On the other hand, the mobile gaming market is a completely different one. In the past, the video game industry invested heavily in research and development, and thanks to the vision of its programmers, it made giant strides; just think of the quality leap of new consoles equipped with artificial intelligence. Today, that innovative effort has diminished. The role that PlayStation played in all this was significant. Once, it was the technology itself that drove the content. For example, with the advent of virtual reality, content was specifically created for this new technology. Thus, creativity served the new technological tool, a process exactly opposite to what a product design should be. In short, it never started from the desire to create something specific but was always done in function of the available technology. The designer of the video

game is the one who plans it and doesn't think about anything else. The era of the "PlayStation 2" was an explosion of creativity in both storytelling and marketing and hit the target of reaching an older audience. PlayStation could no longer be just a gaming hardware but had to represent a real media entertainment channel. Video games, as we know, are not categorized by content but by game mechanics. A video game is a very closed and rigid system of rules that must be consistent and playable. It has many limitations that must be respected. There are people who, having designed video games, try to transition to cinema thinking they can write for the big screen, but they fail miserably, and vice versa. The bond between player and their "avatar" is crucial. Games are immersive because they become interactive. In a video game, we are the character. This is the great difference compared to cinema. Taking a "linear" story and not personalizing it means limiting and constraining the player's freedom (22).

The new trends

The world of video games is evolving with new trends and technologies, particularly thanks to the development of Augmented Reality (AR) and Virtual Reality (VR) (23). AR enriches the real world with digital elements, often through the simple use of a smartphone, while VR immerses users in completely virtual worlds using specialized devices such as headsets and gloves. Both technologies offer engaging and innovative experiences. AR finds applications beyond video games, in fields such as education, while VR is also used in healthcare. These advancements, along with Artificial Intelligence (AI) and Machine Learning, better known as "Machine Learning" (ML), have led to the rise of "cloud gaming" (24), allowing players to access high-quality gaming experiences without the need for powerful consoles or computers. Soon, a new generation of video games will entertain us with near-human dialogues and adapt challenges to our skill levels. The video game industry has always been forced to innovate. However, its history has always evolved with small leaps. With generative AI, the revolution is expected to be more radical compared to other productive sectors. We don't know exactly how much will remain as before, but given that the creation process of video games has already used AI and ML, it is easy to imagine how and how quickly this

important entertainment activity will evolve. With the advent of generative AI, and the arrival on the scene of "Chat GPT" (25), the shock was strong. First noticed by industry insiders, even though the layoffs affecting developers, publishers, and producers cannot be entirely attributed to this revolutionary technology. After all, the possibility of generating images, audio, and text (and now even video) with increasing quality could not fail to seduce an industry condemned to constant technological innovation like gaming. Experimentation has begun and developed in various areas. For example, some development studios have already used tools like Midjourney (26). They have used it to generate backgrounds, settings, and creatures for gaming. Recently, admitting the use of these tools to create images in the game "High on Life" by Squanch Games sparked much controversy among programmers and artists working in this market. Announcements by giants like Ubisoft and Electronic Arts about more extensive use of generative AI and news of layoffs partly made it clearer that something in the production and design of video games would change. As has happened and is happening in many content production sectors, some argue that human creative input will not be entirely automated.

Surely, for small development studios, the prototyping phase will change. With generative AI, the time spent on "demos" is reduced. In short, these tools help put ideas and game design mechanics on paper, but crafting a game still requires a skilled professional with talent and the right ideas. Another important point to emphasize is that we are dealing with AI that is learning to play video games and is getting better at it. One day, we might imagine having artificial agents that play with us or our friends and, because they care about us, let us win (27).

What changes compared to the past?

As told, the personalities of these NPCs (28) are not created by a machine but by a writer who shapes their character, backstory, and conversational style, continuing to modify them once the language learning model begins to improvise dialogue. So it won't be like having a generic GPT to chat with. This is still a prototype, with all the limitations that generative AI still has, including stereotypes and biases. Improvisation is good, but in a game (and not only), characters must follow the

scriptwriter's instructions and maintain narrative coherence. It becomes clear that we can never do without humans, but we will need new professions that keep pace with future technology. The emergence of generative AI tools opens the way to a new professional figure who can guide and support their use within organizations. This new expertise could become crucial to maximizing AI benefits while maintaining proper control and supervision (29). And that's the main issue to solve. Then there's the cost factor, but we'll get to that later. The connection between virtual reality and augmented reality is closely tied to the Metaverse (30) and its upcoming (and very near) innovations. Basically, the Metaverse, which both Facebook and Microsoft are heavily investing in, is the result of combining multiple technological elements, including VR and AR. The Metaverse promises to be a centralized virtual world, parallel to the physical one. A world that will have a significant impact on all areas of our existence. The Metaverse is nothing more than the improvement of an existing communication technology like the Internet. We might almost define it as "Internet in 3D." Today, it's possible to improve this technology with incredible developments in video games. Recently, there has been a perfect convergence between gaming and the Metaverse. It's no longer enough to associate video games with mere entertainment. Video games now have the power to simulate real-world environments and even surpass reality's limits. Companies revolving around the video game industry hold the competitive advantage of representing those digital virtual "worlds" where the Metaverse develops. What we see today coming closest to this new technology are gaming platforms like Fortnite and Roblox (31), where various "houses" have experimented with their entry into this interconnected future. On each of these platforms, which defining as mere video games would be reductive, the player can create their avatar, both in terms of appearance and style and accessories, socialize with other users, and purchase goods and products with cryptocurrencies or NFTs (32). NFTs are perfect tools for representing characters or objects within a game. They are particularly suited for selling, as they are unique. In short, they are nothing more than highly sought-after digital collectible objects, desired by both players and collectors (33).

Video games and jobs

Certainly, this sector could represent a series of very significant opportunities, especially for young people. It's still a bold choice, and one must be fully aware of entering a rapidly moving world. Above all, there's an educational system ready with a wide offering. Various institutions (schools, academies, and universities) are ready to help the sector grow further, especially in terms of quality, with the presence of top professionals in courses. Nowadays, these institutions are aligned in content and programs with the best schools in the Netherlands, France, and England (34). Attending a course allows you, starting from theory, to work in a team, gain experience with teamwork, and share your skills with others. On the other hand, a self-taught individual, when hired by a company, initially struggles more to understand corporate dynamics and teamwork. Entering this world as a self-taught person today is much more complicated than in the past. Once, it was easier to enter as a "video game tester" and then become a game designer or producer over time and with experience. This is to debunk the current narrative that sees work in this sector as the exclusive domain of the Programmer, who is undoubtedly a strategic figure but not the only important one (35).

But is it better to work in a small or large company?

Certainly, large companies offer more career opportunities and ambitious projects, while small companies allow for a more collaborative environment and closer contact with management. In short, the difference lies in the fact that in large companies, employees tend to have more specialized and defined roles, with greater organizational structure and career opportunities. Moreover, they have more resources and capacity for investment, allowing work on more ambitious and high-profile projects. However, the risk of "disappearing" and not standing out within a large organization is greater (36). On the other hand, working in a small video game company allows for a more informal and flexible work environment, with greater opportunities to take responsibility and have a direct impact on the final product. You often work in smaller teams, and there's more interaction between departments (37). To understand which professions operate in this world, it's useful to look at larger companies and examine their organizational

structure by areas of intervention and specialization; this is difficult in a small company where everyone does everything. How does a large company organize itself to produce video games? Large companies have an articulated and specialized organizational structure, with teams dedicated to creative development, project management, marketing and sales activities, research & development, administration, and business management.

The development team

The creative, technological, and productive core of the company is the development team. Under the guidance of the Producer, the team includes the Game Designer, Game Programmer, 3D Artist, Sound Designer, and other collaborators who work together to create the final product. The figures of Game Programmers, Producers, and 3D Artists are among the most sought after by companies in the sector. The Game Designer is one of the main roles in a development team and creates the "game rules," the player's interaction with the game in various missions, and characterizes its structure. It's a highly creative role and can have various specializations (level, combat, and technical depending on the designer's function). Of all aspects of video game development, Game Design is probably the least understood by the public. Many people think it involves programming, while others assume a couple of references to the word "design" mean it's akin to a visual discipline like graphic design. Of all aspects of development, Game Design may involve one or both mentioned aspects, but these certainly don't represent the core of the profession. Making a game is a bit like making a cake. What do you need to make a cake? Various tools like bowls and spoons. Of course, you need the right ingredients, a recipe, and an oven to bake it. In this analogy, the Game Designer is the baker. He has two roles: thinking of the recipe, i.e., the game's characteristics, and putting the ingredients together. Artists, animators, and the team handling sound provide the ingredients as specified by the recipe, but it's up to the designer to combine them correctly (38). The Development Team also includes many other figures who work closely with the Game Designer. These figures can generally be referred to as Game Developers. This term is broader and can refer to anyone involved in video game

development. This includes programmers, designers, artists, musicians, writers, and all those who contribute to creating a game. Game Developers are responsible for the game concept, design, implementation of game mechanics, creation of artistic assets, soundtrack, and other game aspects. First and foremost, the Game Developer's task is to translate into code what the Game Designer has conceived. Undoubtedly, the Developer team is the true operational heart of the project. They handle the actual software development. Developers, who are part of the development team, must have the freedom to manage their daily objectives as they see fit but are required to share their results with the rest of the team so everyone proceeds aligned in advancing the work. Their work requires deep knowledge and is continually evolving, as new technologies emerge daily that must be explored and understood in relation to client needs. It's the Producer's job to ensure workflow continues regularly, even with developer turnover within the team (39). Let's see who these figures interacting with the Game Designer are. Many successful video games involve intense scriptwriting, sometimes so well done that it gets adapted for other media, like television and cinema. It takes talent and creativity to invent stories that entertain while meeting gameplay and objectives. Engaging dialogues, character backstories, plot twists, rules, love stories, and war stories—there are many types of texts written by video game writers. These activities are carried out by Video Game Writers or the evolution of this figure, namely the Game Narrative. These figures are responsible for writing the stories, narratives, and storytelling of the video game (40). 2D or 3D Artists and Concept Artists are professionals who handle the video game's graphic environment, 3D models, graphic structures of characters, etc. Artists are essential for creating 2D or 3D images of environments, characters, vehicles, and objects within the video game. Today, these professionals use both traditional techniques, like freehand drawing, and digital ones, using drawing software. They are often also responsible for creating images for packaging and game marketing. Animators are specialists in game animation. They are essential for bringing life to character movement, environments, and visual elements of a video game, working closely with artists and writers on the development team to make details realistic, movements fluid, and character expressions natural in relation to the game's narrative. They use software like Maya, Blender, and Cinema 4D to create animations. Key competencies for Animators include communication skills,

computer skills, and time management. In large development projects, the Animator role is often kept separate from the Artist role for better workflow management (41). There are also Game Testers, professionals who test and verify the correct functioning of video games before their release on the market. In many cases, even after release, Testers continue working to ensure new updates function properly and no new errors arise. Specific skills are required for this job, such as a good knowledge of video games, attention to detail, patience, and the ability to work under pressure and methodically. Often, familiarity with the main video game development software is also required. The work of Testers is fundamental to ensuring the quality and proper functioning of the final product before it hits the market. The game is tested repeatedly to identify potential bugs, glitches, graphic issues, inconsistencies, and technical problems due to programming errors. Additionally, all features, game mechanics, character interactions, and gameplay must be thoroughly tested to ensure an optimal experience. Tests naturally cover different platforms, operating systems, and compatible devices (42). Depending on project complexity, Sound Technicians and Composers may work independently or collaborate with other team members. The former handles sound effects and character voices, while the latter composes the music. In some cases, video game soundtracks are released as music albums, generating additional revenue (43). Finally, we have the Game Programmer, responsible for the technical implementation of the video game. This is the most important figure in the Team; without them, nothing gets done. Game Programmers focus on writing the code under the guidance of developers. There are different programmer roles depending on experience and the types of programming languages known. Each programmer usually excels in a specific area, such as programming the "engine" (the foundations and multiplayer network). They are, therefore, like providing the utensils: you could probably mix the batter with your hands, but it would be messy, so ask the Game Programmer to create a beautiful wooden spoon (e.g., a dialogue tree editor or any other tool). Programmers also build the oven or at least maintain it, transforming your batter into an edible cake.

The Producer

The Producer's role is complex and multifaceted, varying from company to company, from project to project, and even throughout the development process. They are responsible for the game development project and bear much of the responsibility if something goes wrong. They must resolve all organizational issues on the fly and manage unforeseen events or sudden changes in direction or context. The Producer is the project and team manager, responsible for timelines and keeping costs within budget limits but, simultaneously, keeps the game design vision cohesive across the entire team. They must ensure the final product aligns with the established vision and meets agreed-upon minimum quality standards. The Producer must know every aspect of the project because while members of any other department focus on a specific area, the Producer must cover and supervise them all; the Producer facilitates the work of all developers, removes obstacles, and "makes things happen." If there are problems or delays, they solve them. As a "decision maker," they can make both strategic and content decisions (44).

Other Areas of Intervention

Other areas of intervention in this sector are the classic ones present in every large company. Thus, we have Marketing and Public Relations, responsible for promoting the game, creating advertising campaigns, managing social media presence, organizing launch events, and interacting with the media. There's also Communication (responsible for promotion, advertising, and public relations) and Publishing, which manages the publication, distribution, and sale of the final product. Then there's Administration and Business Management. This area handles the administrative and financial aspects of the company, including accounting, human resources (HR), resource management, and strategic planning. Lastly, there's the Research & Development area. This focuses on researching and developing new technologies and game concepts for future interactions or new projects. It includes roles such as R&D Engineers, conceptual designers, and market analysts.

Gaming

If we consider the common narrative, we might define the professions emerging in the video game sector in recent years as "unusual." This is because when we think of professions, we tend to primarily consider traditional ones. Furthermore, the current classifications by ISTAT are somewhat outdated regarding the labor market's novelties. It's necessary to understand that the existence of new professions emerging in the video game sector isn't only linked to the game producers themselves but also to those who have turned their passion into a real job. The reference for these new jobs, once unimaginable, is the world of streaming. Streaming is the flow of data, with audio and video content, viewable thanks to the internet. It can be "on-demand," saved and always available online as on YouTube, or live, as on Twitch. Each digital platform has its specialties and peculiarities, often dictated by user habits and usage. On YouTube, there are "on-demand" videos mainly about video games and past eSport events, while on Twitch, there's a vast amount of live-streamed eSport events and games, making it the world leader in the sector. However, YouTube's success marked a global turning point in democratizing communication. This is an aspect to consider to better understand how eSport, thanks to technology, has become a social phenomenon. It's clear how, from a niche movement, spreading widely, it's gradually becoming more of a "mainstream" phenomenon. Thanks to new technologies, it's possible to establish or create a direct, personal, intimate relationship with the audience. This form of empathy serves not only as a vehicle for interaction and identification with the audience but also for providing simple entertainment.

YouTuber

It is the content creator themselves who carries out this process, transitioning from sharing their enjoyment to becoming its publisher. It's no coincidence that the success of many YouTubers (46) originated from video games. A YouTuber is a genuine "personal mass communicator," thus not merely a figure tied to esports. Literally, a YouTuber is "someone who creates videos on YouTube." A YouTuber is a video content creator on one or more specific topics. The term naturally derives

from YouTube itself, the website founded in 2005 that allows users to upload their videos and manage them through their own channel. Its great value was already evident in 2006 when Google acquired it for about \$1.5 billion, and today even more so since it has become the most visited website globally after Google itself. Being the first, achieving success dictated the rules. A historical shift occurred: from the typical limited number of contents in TV programming, we've moved to having an infinite quantity of always-available videos of every genre and subject, accessible for free; most of these videos are made not by famous people but by complete strangers who, thanks to this vast stage, can aspire to wealth and fame. This was a real revolution against the status quo. In a short time, a gold rush ensued, attracting everyone eager to participate. This brought success both to those who already had strong experience in traditional communication but needed an effective channel and to those who, starting from zero without any communication background, managed to exploit this new opportunity well. In any case, it's essential to understand that it's not YouTube that generates the YouTuber, but the opposite: it's the people creating the content who grow the platform and the entire sector. Naturally, this ferment required and favored significant skill development. A successful YouTuber is someone who, through experience and the ability to use available tools, has managed to codify a communication method suitable for this new form of entertainment and paired it with quality content. By "success," I mean well-made production, not necessarily "viral" at all costs. What I emphasize is that today, there are high-quality standards to define oneself as a YouTuber. Of course, there are always amateurs and those who say, "I enjoy it and see where it leads," but it has become a real profession. We arrive at the point, the role of the YouTuber (in esports and beyond). The phenomenon of "YouTube and its professionals" deserves a thorough overview since it marked an epochal change in the perception of all areas of human knowledge. Keep in mind that YouTube is a social network that also provides information and entertainment. I want to highlight the difference compared to other famous socials. YouTube contributes to shaping current events, social trends, and society as a whole, whether the user or YouTuber wants it or not. The user who watches, contributing to the success of a YouTuber, is themselves part of the current events and conditions social trends present and future. It becomes easy to understand how a YouTuber can become a reference point for a wide

audience precisely with the themes they address. Therefore, it is clear that an attractive YouTuber, beyond earning through advertising, donations, and commercial agreements, can obtain the "social status" of an Influencer and thus influence others' opinions, willingly or unwillingly. This principle applies to all figures who have direct relationships with the public, whether VIPs, investigative journalists, or Streamers (those who broadcast live). "Willingly or unwillingly," as I emphasized, means that anyone creating content is inevitably an expressive entity, therefore subject to external judgments and criticisms. This leads us to consider further aspects: responsibility for the created content, the image a YouTuber gains by addressing certain topics, and the overall effect these two things produce on the sector itself under analysis. The issue becomes particularly delicate when talking about thousands, if not millions, of viewers. Moreover, one must consider the ease—and often the impossibility—of controlling who actually consumes the content. In the end, we find ourselves tempted to admit the inevitable importance of numbers: does the one with the most views win? The weight of numbers: does the one with the most views win? But is this really the reality? Does the prevailing opinion equate to truth? These are ethical dilemmas where "it depends" is often heard.

Streamers

Streamers and YouTubers are two distinct categories, though they often overlap (47). YouTubers are content creators who publish videos on YouTube, which can range from tutorials, blogs, gameplay, reviews, and more. Streamers, on the other hand, are individuals who broadcast their content live on platforms like Twitch, YouTube, or others. Streamers often focus on gaming but can also stream other types of live content, such as conversations, live events, or create live content on various topics. While some YouTubers may also be Streamers and vice versa, it's incorrect to consider Streamers as a subcategory of YouTubers. In short, a Streamer is someone who broadcasts themselves and/or content live on a dedicated platform; in fact, they are like a small TV station; hence, on these platforms, they talk about "channels." One can be just an amateur, i.e., streaming content only occasionally without a precise structure, but a true Streamer uses

professional equipment (48), creates a schedule, and decides the broadcasting times and content to cover. Additionally, it's important to remember that, like any environment or website, Streamers also have their own social approach. Streamers aim to build relationships within their ecosystem to maintain user attention, generate more traffic, and gain more popularity, advertising, and value. Therefore, it's common for Streamers to host ("host") other channels when they're not live. That is, during inactive periods, they broadcast (host) other live channels so their channel remains active, much like Rai or Mediaset. At the scheduled time, the Streamer then starts their broadcast (a certain number of times per week or day). The activity of a Streamer is thus divided into two parts: on one hand, content production, and on the other, establishing and communicating their position within the reference context. Let's start with the latter activity, which may appear more nuanced: as already mentioned, relationships are established, one becomes part of the environment, and reciprocal support with other Streamers or content producers can be fostered. Above all, a direct relationship with their audience is created. Although there are numerous parallels with YouTubers, live streaming establishes a real dialogue—an immediate interaction of actions and reactions that gets lost in YouTube video editing or simply doesn't exist there. The emotional aspect is amplified, and the skills required for being "live" are different: clarity, likability, and the ability to "keep the viewer hooked" are always key requirements but expressed differently. In live broadcasts, there are no cuts. The Streamer must follow the script of the character they've built, making it difficult for them to lie. They must be spontaneous because the audience immediately senses any unnatural behavior. Given the characteristics described, Streamers have a direct and immediate emotional grip on their audience, more than any other digital figure. Thanks to channel subscriptions (to access certain content, a monthly fee is required), donations, advertising, and commercial agreements, some Streamers earn thousands and thousands of euros per month (49). They do so thanks to their ability to establish a strong bond of trust and closeness with their audience, leading them to be considered true friends. The Streamer's competitor is silence. Like an open radio or television, the Streamer replaces silence and boredom. Streamers are a testament to humanity's innate relational need, which exists even on the web. We must remember this, just as we must remember that humans

need spaces of silence and decompression (50). The Streamer, who can be considered a "subcategory" of Influencers, is closely linked to the gaming and esports sectors and uses live streams as their primary—if not sole—form of communication. They are true professionals who leverage streaming platforms to entertain and engage the audience. They use these platforms to transmit their video content, aiming solely to involve as much of the audience as possible and retain them. They don't just play but comment in real-time on different phases of the game, interact with followers, thereby transforming their hobby into a genuine form of entertainment. A Streamer can be a Pro Player (professional gamer), an amateur enthusiast, or even a simple Caster (i.e., a commentator on esports events). In short, some Streamers (51) have succeeded, even in our country, in turning their passion for gaming into a profitable business (52).

Casters

And then there are the Casters. In this case, we refer to a professional figure in the esports and streaming world. The role of the Caster is the simplest to understand. Normally, they are the twin of a sports broadcaster commenting on any soccer match or other sport: they narrate and explain what happens before the viewer's eyes, provide context, and tell the story of a rivalry. They guide and pace the development of a broadcast, giving rhythm to the narration. Professionally, there are no differences between them and a sports journalist. The content-specific nuance concerns the product—in this case, the esports event. Indeed, it's clear that the discipline in which players compete is video gaming, and their "athletic gestures" are purely digital. Despite this, from simple camera shots, e.g., those on the players' faces, you can notice their tension or joy. Even if the visible performance isn't that of a physical human body, the viewer unfamiliar with the game is emotionally engaged. Furthermore, while the concepts and languages used by traditional sports commentators are now widely known, almost part of general culture, in the world of esports Casters, there are many terms and details closely tied to individual video games, which, if unknown, make enjoying the commentary difficult. It follows that the Caster must be, and remain, tied to their reference game, as mere journalistic clarity isn't sufficient. They must be able to

explain the game to newcomers unfamiliar with its dynamics and rules and be capable of providing detailed analyses appreciated by an expert audience. As with sports commentators, there are various types: those who simply narrate the event itself, those who focus heavily on technical and tactical analysis, up to the classic "play-by-play," the relentless describer of actions. Without going into detail, what stands out, beyond the clear parallel in professionalism, is that the Caster is asked to add that extra color, explanation, or humanity that is harder to find in esports. Unlike Streamers, who primarily broadcast their own gameplay, Casters focus on commenting and telling the stories of other professional players' matches. They are considered professional figures and ambassadors of the esports ecosystem because they contribute to spreading and promoting this type of entertainment. In summary, the term "Caster" on YouTube refers to those who comment and analyze professional video game competitions live, playing a key role in the esports industry (53).

Pro Players

Being a Pro Player is considered a true profession. It involves a player competing in video games at a professional level and getting paid for it. Esports players are considered "athletes" in every sense. To achieve this status, it requires great commitment and dedication comparable to that of a professional athlete. They must constantly train, improve their skills, and compete in official tournaments. Pro Players can earn very high amounts, even millions of dollars annually, through prize money, sponsorships, and contracts. However, in Italy, earnings are generally lower compared to those in other countries. There are specialized paths and schools that train new talents to become Pro Players, called "Esports Academies." Many Pro Players are also Content Creators, meaning they create content on platforms like Twitch and YouTube, which helps them earn more and attract new fans. In conclusion, the role of the Pro Player can be likened to that of traditional professional athletes (54). Esports is learned by living it, but it's the communicative figures that make it known. Their characteristics and functions have been outlined, emphasizing that they are not alien to the digital world but typical forms of a real movement made up of professional figures. As previously

stated, esports, like sports and somewhat any life activity, is better understood when practiced. However, it's often those who talk about it who represent the connection to the "outside world." Professional gamers, with their teams and tournaments, are the heart of esports. Yet, it's the external transmission that makes the movement what it is because it constitutes the narrative, the history, the emotion, the spectacle, and a true business. Everyone is free to communicate in any way nowadays, but the intermediate and necessary protagonists between the played video game and the general journalist or viewer are precisely them: the Streamers and Casters, considered true ambassadors of esports (55).

Bibliography and Sitography

(1) Luca Tremolada, "Video games are now 40 years old: who is today's user and what's inside video games?" on *ilsole24ore.com* , May 17, 2023.

<<https://www.ilsole24ore.com/art/sei-sei-bello-e-popolare-passi-meno-tempo-i-videogiochi-e-davvero-cosi-AF4263MD>>

(2) A serious game is a true "learning by doing" game (learn by doing), leveraging the playful component to facilitate education, training, or learning a specific subject or skill, not aimed at mere entertainment.

(3) Marco Ciziceno (University of Palermo), "From game-based learning to serious games: some perspectives for technology-mediated learning" on *iris.unipa.it* , 2021.

<[<<](https://iris.unipa.it/retrieve/43be3b66-2452-4869-a337-3895144ea815/1.%20Ciziceno-MediaEdu-Accepted.pdf)

(4) Ross and the Grammar Fog is the first educational video game connected to the fundamentals of Italian grammar. The game alternates narrative, educational, and playful moments. To progress and advance to the next level, students must face small challenges and solve grammatical puzzles in the form of increasingly difficult mini-games.

(5) "Why and how games change the meaning of work?" on *agendadigitale.eu* , March 4, 2022.

<<https://www.agendadigitale.eu/cultura-digitale/gamification-perche-e-come-il-gioco-cambia-il-significato-del-lavoro/>>

(6) "Newzoo Global Games Market Report" on *newzoo.com* , July 1, 2021.

<<https://newzoo.com/resources/trend-reports/newzoo-global-games-market-report-2021-free-version>>

(7) The most famous gaming consoles are Sony PlayStation, Microsoft Xbox, and Nintendo Switch.

(8) Approximately 46% of gamers are women. The average age of gamers is around 34 years, with representation across all age groups but a higher concentration of over-18s, representing 70% of the total.

(9) "The ten cities in the world where you can encounter gaming culture" on *games.lionbridge.com* , February 7, 2023.

<<https://games.lionbridge.com/it/blog/10-cities-for-global-gamers-to-watch/>>

(10) Chat games are games that allow players to chat or video chat during gameplay.

(11) "How much is the gaming market worth?" on *pxritaly.it* , December 8, 2022.

<<https://pxritaly.com/it/blog/quanto-vale-il-mercato-del-gaming/#:~:text=Questo%20incoraggia%20gli%20sviluppatori%20di,miliardi%20di%20dollari%20nel%202022.>>>

(12) Luisa Bixio (Vice President of IIDEA and CEO of Milestone) on *startupitalia.eu* , September 18, 2022.

<<https://startupitalia.eu/lifestyle/donne-nel-gaming-le-bambine-con-la-passione-per-i-videogiochi-sono-le-sviluppatrici-del-futuro/>>

(13) Marco Saletta (General Manager of Sony Interactive) on *laureatiluiss.it* , November 23, 2021.

<<https://laureatiluiss.it/news/intervista-a-marco-saletta-general-manager-sony-interactive-entertainment-italia/>>

(14) "What is happening in the video game market?" on *infodata.ilsole24ore.com* , September 23, 2023.

<<https://www.infodata.ilsole24ore.com/2023/09/23/cosa-sta-accadendo-al-mercato-dei-videogiochi-in-cinque-grafici-e-un-numero-infographics/>>

(15) Silvio Mazzitelli, "Video games are increasingly widespread in Italy despite perceptions" on *spaziogame.it* , November 27, 2023.

<<https://www.spaziogames.it/speciali/videogioco-e-sempre-piu-diffuso-anche-italia>>

(16) Davide Leoni, "The profile of the Italian gamer: average age 30 years. Four out of ten are women" on *everyeye.it* , May 4, 2023.

<<https://www.everyeye.it/notizie/profilo-videogiocatore-italiano-eta-media-30-anni-4-10-donne-648044.html>>

(17) "Boom in video games during the pandemic" on *lastampa.it* , October 28, 2021.

<https://www.lastampa.it/economia/2021/10/28/news/boom_di_videogiochi_durante_la_pandemia_nel_2020_il_mercato_vale_2_2_miliardi_di_euro-316811/>

(18) Candy Crush is one of the most successful smartphone games, reaching nearly 3 billion downloads.

(19) Generation Z is defined as coming after Generation X (born in the '60s and '70s) and Generation Y (Millennials, born in the '80s and '90s).

(20) Habitus is a term in sociology that designates a way of being, a general aspect, a habit or state of mind, representing how culture and personal history shape individuals.

(21) "Half of the global population plays video games" on *it.ign.com* , April 13, 2023.

<<https://it.ign.com/pc/201864/news/meta-della-popolazione-globale-gioca-ai-videogiochi-ma-solo-il-10-lo-fa-su-console-o-pc>>

(22) "The 10 most spectacular films based on video games" on *tg24.sky.it* , April 17, 2023.

<<https://tg24.sky.it/spettacolo/cinema/2023/04/17/film-videogiochi>>

(23) In summary, the distinction between Augmented Reality and Virtual Reality lies in how they interact with the user's environment: AR enriches the real world with digital elements, while VR immerses users in completely different virtual environments, offering distinct yet complementary experiences in the gaming world.

(24) Cloud gaming represents an alternative to traditional gaming methods, allowing video games to be streamed. Cloud gaming platforms operate similarly to remote desktops and video-on-demand services; the games are stored and run remotely on dedicated hardware provided by a service provider and transmitted as video to the player's device via the internet.

(25) ChatGPT is a new tool from OpenAI aimed at making interactions with AI systems more natural and intuitive. ChatGPT is a technological innovation with

significant impact, allowing anyone who knows how to ask the right questions, through textual prompts formulated in simple and natural language, to generate summaries, poems, essays, study plans, advertisements, and even programming code.

(26) Midjourney is an AI-based image generator that allows the creation of realistic photos and incredible illustrations from simple textual instructions.

(27) "Artificial Intelligence in Video Games: An Evolving World" on *vigamusacademy.com* .

<[\(28\) In the gaming world and role-playing games, the acronym NPC \(non-playable character\) refers to non-player characters, i.e., characters not controlled by the player but by artificial intelligence or a game master guiding their actions.](https://www.vigamusacademy.com/intelligenza-artificiale/#:~:text=Attraverso%20il%20Deep%20Learning%2C%20o,sempre%20pi%C3%B9%20realistica%20e%20unica.></p></div><div data-bbox=)

(29) Simona Politini, "Microsoft Copilot: How the Experience of Work Changes with Generative AI" on *peoplechange360.it* , September 25, 2023.

<[\(30\) Defined by some as cyberspace, the Metaverse can be imagined as a digital space where people can fully immerse themselves, experiencing something akin to real life but in a reality where everything is possible.](https://www.peoplechange360.it/hr-tech-analytics/microsoft-copilot-come-cambia-esperienza-del-lavoro-con-generative-ai/></p></div><div data-bbox=)

(31) Roblox is an online game creation system where most content comes from amateur creators. These game creators can create and publish games for the community using simple tools. These games are often playable by children worldwide, connected online via an app for phones or tablets or a web browser. This video game has surpassed 55 million users.

(32) NFT stands for Non-Fungible Token. It represents ownership and authenticity certification of a unique asset using Blockchain technology. Non-fungible tokens are not interchangeable. Starting with the distinction between Bitcoin (or any other cryptocurrency) and NFTs, while the former is a "digital currency," the latter

are "digital tokens," each with a different value. The basic premise is essentially the same—they are both "digital products," born on the web, stored in a digital wallet, contain metadata and digital information, and are based on blockchain technology. The substantial difference lies in the fact that owning a Bitcoin means having a (digital) coin that can be freely exchanged on the market for any other Bitcoin. What distinguishes them is replicability. Purchasing ownership of an NFT ensures its non-replicability and uniqueness. It can be sold, but the exchange is not replicable. The owner is unique and sole. Each NFT has its own digital identity guaranteed by a cryptographic code. For example, if you exchange 1 Bitcoin for another, the value will be the same; however, if you exchange 1 NFT for another, the value won't be the same because they are different objects.

(33) Daniel E. Miller, "Metaverse: The Complete Guide to the Metaverse and NFTs," November 29, 2021.

(34) In Italy, there are several academies and training programs for game design and video game development. For instance, the Italian Videogame Academy (AIV) is one of the first professional schools for video games in Italy, offering courses in game design, game development, and video game graphics; the Digital Bros Game Academy in Milan offers annual courses in game design, game programming, and art & animation; Event Horizon in Turin focuses on digital arts in the gaming world, such as game development, motion graphics, and digital comics; Big Rock in Treviso offers courses in computer graphics, concept art, and virtual reality; the IUDAV (Institute of University Design Visual Arts) in Solofra is the first Italian academy specializing in video games and animation, offering bachelor's and master's programs; universities like the Polytechnic University of the Marche region, the University of Verona, and the IULM University offer undergraduate and master's programs in game design and video game development.

(35) These are the most important roles in creating a video game:

- **Video Game Programmer** : writes the actual code for the program.
- **Video Game Developer** : oversees and coordinates the various teams involved in developing the video game.

- **Video Game Writer** : writes the screenplay and determines dialogues, character backstories, plot twists, and game rules.
- **Voice Actor** : gives voice to characters and the game's narration.
- **Video Game Artist/Graphic Designer** : creates 2D or 3D images of environments, characters, vehicles, and objects within the game.
- **Video Game Localizer** : translates video games while considering cultural, social, and historical factors.
- **Video Game Tester/Reviewer** : ensures the game works properly and is bug-free.
- **Sound Technician and Composer** : handles sound effects and music for video games.

(36) "Ranstad.it," "Small or Large Company: Where is it Better to Work?" October 25, 2023.

<<https://www.randstad.it/come-trovare-lavoro/piccola-o-grande-azienda-dove-si-lavora-meglio/>>

(37) Daniele Fusetto, "The Role of Narrative Designers in the Gaming Industry" on *aiv01.it* .

<<https://www.aiv01.it/Il-lavoro-del-narrative-designer-nel-mondo-dei-videogiochi/>>

(38) "What is Game Design?" on *dbgameacademy.it* , April 18, 2023.

<<https://dbgameacademy.it/cose-il-game-design/>>

(39) The development team includes various types of developers: Front-end, responsible for the user-visible part. They implement the design and code the graphical interface with which the user interacts on the platform; Back-end, responsible for server-side functionality and everything behind the scenes. They implement features that allow the software to function but are invisible to the user; Full Stack, a developer with skills in both Front-end and Back-end.

(40) "Writing for Video Games: The Craft of the Narrative Designer" on *simulware.it* , April 12, 2023.

<<https://www.simulware.com/it/news/564-scrivere-per-i-videogiochi-il-mestiere-del-narrative-designer>>

(41) Martina Mascali, "How to Work in the Video Game Industry and Top Careers" on *monster.it* .

<<https://www.monster.it/consigli-di-lavoro/articolo/lavoro-videogiochi>>

(42) "How to Become a Video Game Tester?" on *dbacademy.it* , July 24, 2020.

<<https://dbgameacademy.it/come-diventare-un-beta-tester-di-videogiochi/>>

(43) Claudio Cugliandro, "Video Games and Music: The Importance of Sound Design" on *everyeye.it* , July 28, 2018.

<<https://www.everyeye.it/articoli/speciale-videogiochi-musica-importanza-del-sound-design-40070.html>>

(44) Gerome Micciche', "How to Become a Video Game Producer" on *dbgameacademy.it* , October 21, 2023.

<<https://dbgameacademy.it/come-diventare-producer-di-videogiochi/>>

(45) Electronic sports, also abbreviated as esports (from electronic sports), are competitive and professional-level video game competitions.

(46) Some YouTubers have become extremely famous with millions of followers and views. In Italy, personalities like Ciccigamer, Giorgio Calandrelli, or Jakidale have become major references for this kind of audience.

(47) A Streamer is not a subcategory of YouTubers. Streamers manage channels on streaming platforms like Twitch, broadcasting live videos mainly related to the gaming world, entertaining viewers and interacting with them via a dedicated chat. On the other hand, YouTubers produce video content on YouTube, earning primarily from YouTube revenue and sponsorships on their channel. While both figures create video content, the main difference lies in the platforms they operate on and the type of content they offer.

(48) Essential tools for achieving high-quality streaming include an HD webcam, a reliable microphone, a selfie stick, a sturdy tripod for the camera, a ring light, a green screen, LED lights for set design, among others.

(49) Riccardo del Lungo, "What Are Streamers and Casters and Why Are They Ambassadors of Sport?" on *today.it* , November 25, 2019.

<<https://www.today.it/blog/de-rerum-esport/cosa-sono-streamer-caster-esport.html>>

(50) "What Are Streamers?" on *weca.it* , March 13, 2023.

<<https://www.weca.it/tutorial/tutorial-stagione-5/cosa-sono-gli-streamer-tre-aspetti-da-conoscere-e-tre-piste-di-riflessione/>>

(51) A Streamer dedicating 40 hours per week to the platform and having a loyal audience can earn between \$3,000 and \$5,000 per month. Sponsorship income typically amounts to \$250 for every 100 subscribers, though amounts vary based on location, topic, and other factors.

(52) Francesco Caroselli and Lorenzo di Luzio, "Here Are the Streamers: Who Are the Professionals of Entertainment on Social Platforms?" on *agenda digitale.it* , April 28, 2021.

<<https://www.agendadigitale.eu/cultura-digitale/streamer-chi-sono-i-professionisti-dellentertainment-sulle-piattaforme-social/>>

(53) Riccardo del Lungo, "What Are Streamers and Casters and Why Are They Ambassadors of Sport?" on *today.it* , November 25, 2019.

<<https://www.today.it/blog/de-rerum-esport/cosa-sono-streamer-caster-esport.html>>

(54) Riccardo Conteduca, "The Life of Pro Players: Just Play or Just Work?" on *esportsitalia.it* , July 8, 2017.

<<https://esportsitalia.com/come-diventare-un-gamer-professionista/>>

(55) Riccardo del Lungo, "What Are Streamers and Casters and Why Are They Ambassadors of Sport?" on *Today Blog.it* , November 25, 2019.

<<https://www.today.it/blog/de-rerum-esport/cosa-sono-streamer-caster-esport.html>>



Massimo Tamiatti

I have always been involved in the study and dissemination of topics related to new technologies, new jobs, and new skills. I do this in a completely new and different way compared to traditional research approaches because, in addition to consulting traditional sources, I consult sources from major strategic consulting firms, which do not have a static but dynamic vision of reality, as they focus on the future. I systematically use the web to search for the most up-to-date content, perhaps through webinars with privileged witnesses on the subject of the investigation or through some important influencer specialized in the topic being addressed. Obviously, today, I use Generative Artificial Intelligence tools. I do not neglect the present; I try to interpret the signals that we have before our eyes, which we are often used to looking at and not seeing, and which suggest what could happen. I do not neglect the past, that is, history, but in reality, many disciplines are mixed: economics, statistics, sociology, psychology, anthropology, and above all, I use imagination anchored to the facts that happen every day in the world. I consider numbers very important, but they are not everything; at the center, there must always be a particular attention to the privileged witnesses of the things that happen and their personal stories. Frontiere does not have the gift of foresight, but our team can make hypotheses, and among these hypotheses, I have realized that it is very likely to encounter the future. Spreading the culture of anticipation helps people understand what is happening in the world, especially in the world of work, helps them prepare, elaborating strategies, and organizing themselves to make very important conscious and correct choices for the effect they will have on their lives.

Institutional Profile

I was Chief Research Officer of the Agenzia Piemonte Lavoro, where I coordinated groups of researchers in the field of labor and vocational training policies until June 30, 2023. Since July 1, I have become part of the staff of the "Laboratorio Riccardo Revelli" as an honorary member. I am an expert in public employment services. Currently, I am a member of the group that coordinated the organization of the "Settimana del lavoro 2024" and related events on behalf of the Istituto per la memoria e cultura del lavoro, dell'impresa e dei diritti sociali (ISMEL), of which I am a member of the scientific committee. I am a member of the scientific committee of Polis policy, Accademia di alta formazione. I am the founder and director of the online scientific dissemination site <http://www.frontieretecnologialavoro.com> since 2022 and a member of the Associazione dei Futuristi italiani di Roberto Poli. I am an expert in the use of forecasting techniques applied to local labor markets, in collaboration with the start-up Skopia, specialized in future studies and anticipation, aimed at helping organizations develop anticipatory strategies to support complex decisions in areas of strong uncertainty. I have a degree in letters and philosophy, with a thesis in contemporary history and one in political science, both obtained from the University of Turin, and I am the author of numerous publications related to the labor market, and in particular to the new scenarios of the labor market, new professions, and new skills.

The following collaborated with me on this project: Gabriele Lamberti, Benjamin Dafku, Ivan and Federico Giacobino.