

## Panel 4 – Social and Environmental Aspects

**Moderator – Mariana Ruete, IGF**

In this way, we are going to speak strictly about economic technologies. This is the human face of death, our ugly side, the side of production, of health issues, of fatalities – this is where human rights come in. Today, the world speaks of critical and strategic minerals, but for many of our countries, the members of the IGF, it is essential, it is strategic. Someone was saying that it is part of national sovereignty, which is true, and it is very good to be discussing this in Brazil, because I know there is a conversation about critical minerals here, in the Ministry, in the Congress.

There is also a very big difference in how the artisanal mining sector is treated compared to Large-Scale mining. The governance of Large-Scale mining is a tripartite relationship: the government, the company and also the communities. In this tripartite governance relationship, the company is the protagonist. The artisanal sector is a different world, a dual relationship: the miner and the government. It is a human rights relationship; it is the cold side, and there are many governments we see at the IGF that shy away from this subject, so they want to treat artisanal mining within social environments. We speak about all the opportunities; this is the last one, it is the best practice across all countries. These spaces are also very important because of the ecosystem that exists here. Not all countries have an ecosystem like Brazil's. That is to say, they have a very rich ecosystem across the entire value chain. These are also very important. And we spoke before of a public or private partnership. I want to say that it is not just public-private, it also involves civil society and the miners.

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**Jair Schmitt – Director of Environmental Protection, Ibama**

Ibama is one of the federal agencies that acts specifically to combat illegal mining, and in some more specific circumstances, it is also involved in environmental licensing. This is already a very particular segment; I believe that a good part of what is licensed in the country involves gold, and today this is the responsibility of the state environmental authorities. Occasionally, we see municipalities issuing licences, perhaps with some legal deviation.

However, in addition to its role of conducting oversight and combating illegal mining, particularly in areas under Federal domain – federal areas, indigenous lands, traditional territories, and conservation units – Ibama also has a role we call 'subjective environmental inspection competence'. Where there is inaction or omission by a state environmental authority, or in the interest of the Federal Government, Ibama can, in principle, also carry out inspection. Finally, besides this central role of combating and carrying out oversight, accountability, and initiative, the institution handles licensing only very exceptionally and circumstantially. Ibama is also responsible for controlling the mercury supply chain in the country. Thus, there are some measures and regulations that

deal with mercury, which is an essential input for the production and exploration of gold. Given this context, I will also make a slightly greater effort here to fit the role and work of the institution into the socio-environmental theme, although Ibama's scope of action is a bit more specific.

I will organise my discussion around precisely three or four essential points. Well, the first and perhaps the most central point, from Ibama's perspective regarding its role and work, is what we see today concerning gold exploration. When we particularise this, looking at artisanal mining (*garimpo*) and illegal artisanal mining (*garimpo ilegal*), not focusing so much on regularly constituted activity with environmental licences, mining permits and so on, is that we have chaos established in the country; we have a great chaos. We have extensive areas being illegally exploited without any compliance with environmental rules or, possibly, mining rules. This chaos, which sometimes dominates, this 'cancer', in the way we see it in the monitoring systems, is spreading across areas, degrading the environment and bringing severe consequences for people. It affects the mineral activity we are working on, but mainly it creates externalities for other people, from soil degradation issues and water contamination to degrading working conditions and the use of mercury or other inputs that are extremely polluting.

So, this is the panorama we see. Why am I saying this? Because when we look at environmental monitoring systems that measure the area being exploited, particularly in the Amazon, the region of the country with the most gold exploration—again, I am referring to what we classify as illegal. There are still many other companies and regularly constituted activities operating within compliance parameters and so on. I am not referring to this sector that operates correctly, but this sector that operates correctly, based on the snippets of conversation I just picked up here, is also being harmed by the illegal sector. The illegal sector, in addition to causing all the damage and problems I mentioned, also creates, to some extent, a problem—I do not know if this is the correct term—of unfair competition. This affects the country as a whole, the mineral activity, the country's economy, and ultimately, all the social and economic benefits that come from this activity that operates regularly, following all the rules, although many of them still need improvement.

So, this panorama, particularly in the Amazon, has evolved a great deal; this 'cancer', as we might call it because of the way it spreads, has evolved significantly in the last ten years. There is a time frame that is impressive when you see how many areas have been opened up for illegal mining. Where are these areas? Largely in indigenous territories, and that is no news to anyone in this room. Yanomami Indigenous Land was chaos, which has been significantly controlled now. Urucu Indigenous Land, Kayapó, is one of the main areas for illegal gold exploration, along with all the degradation and problems involving the people who are there. Whether it is that labour force of workers, who constitute a workforce there, or the other people who suffer the consequences of that chaos, that entire polluting, human-environmental degradation process involved.

Every year, there is an opening of at least more than one thousand hectares in new artisanal mining areas; this is measurable by satellite imagery. Since 2023, with the new government orientation—and government is important, it is necessary; the public

authority must act—it is a fact that there has been greater action to combat this illegality. So, when we compare up to 31st December 2022, how much area was already open there, or how much was opened per year, and we now compare that with 2024, 2025 (the year has not closed yet), there has been a reduction of about 30% to 40% in the opening of these new areas. It is a very precise, significant result, given the context of constant growth, and now we have an easy downward trend in the confrontation by various agencies; Ibama, in particular, has a very firm role in this. But the problem still persists; it is very great.

I spoke about the layer of people who are there and the size of the installed problem, the investment in structure and machinery, which is worth millions in equipment; we are no longer talking about simple artisanal mining; that is an insane, giant industrial activity. And creating this 'manoeuvre mass' here, in reality, it is operated by other layers of this crime chain. People who sell inputs for the crime, fuel—there is a market niche, Ibama identified this, and there was a strategy of fetching fuel from Cubatão, from a distributor, to supply the aircraft, the more than 100 aircraft that operated the conditioning in the Yanomami Indigenous Land. Ibama, the National Petroleum Agency, and ANAC have also been working on this matter. So, there was a whole effort to take it to the country's extremes, because locally there was already a blockade on this trade, and there was a niche of organised crime acting there.

We have another niche, which is the real owner of the artisanal mine, the *garimpo* boss, who is not the person working there who pays a fee or a daily rate—there are various models of exploiting people, which constitutes serious degrading work. So, there is someone who owns that exploration. In the past, we saw various types of bosses and *garimpo* owners. Today, who acts as the *garimpo* owner? Organised crime, which has diversified its business, uses its structure, its methods of violence, logistics, its networks of influence, corruption, and contacts, and organised crime is dominating the artisanal mines in the Amazon. Because it is very lucrative, gold is very lucrative. The PCC, Comando Vermelho, other more regional factions, and militias are there. Organised crime entered some *garimpos* as another business niche; it used to sell narcotics, sell drugs there, and then it became established. There are various reasons, but organised crime is dominating this, and it is very difficult to face and combat organised crime. It is an environment of violence and exploitation of people, and there are several other stereotypes that we are all familiar with. It is at this moment that we take this stereotype of illegal gold exploration and put it in the same pot as the industry that is the productive sector that produces correctly, and we cannot distinguish this, and in reality, the Brazilian image is in that package.

Another important point, now I will make a reservation regarding the industries, the small gold producers, who have PLG [Permit for Gold Panning], who have environmental licence, usually state licences, but they are also operating illegally. And why are they operating? The main asset there in the productive method, which is Mercury, and when we look at Ibama's control system, when we see other data, in reality, the underworld of this market, of this mercury world—which is a joint effort between Ibama and the Federal Police, who carried out two or three operations, Operation Hermes (Hg)—what we perceive is that there is no legal mercury in the country to be used in these mining



companies that have an environmental licence, that have PLG, which in theory would all be compliant, right?

So today, at any moment, if Ibama, among so many other demands, wanted to embargo and close the claims of these mining companies, it has all the factual and legal arguments that the legality of this mercury cannot be proven in most cases. And where is this mercury coming from? Smuggling; it enters the country through our roughly 16 thousand kilometres of border, in airplanes: Bolivia, Paraguay, Central America, Mexico—there is everything, there are routes. There are several land routes: Bolivia itself, Paraguay, possibly Uruguay. And there is the import of mercury disguised as various other products. We caught some in Campinas, for example, what we call an NCM [Mercosul Common Nomenclature] product leakage; it was declared as shampoo. Kilos and kilos in shampoo bottles. In the past, we caught it disguised as paper, those reams of paper.

So, mercury, in reality, is a major bottleneck in the gold production study in the country, given these circumstances. We picked up a request in the past, when Anvisa still allowed the import of mercury for the production of dental restoration amalgam, if I am not mistaken, Anvisa restricted this in 2019, and a dental company was importing four tonnes of mercury. Then, when investigating and studying the chain, the company was selling it to a certain group in Mato Grosso that redistributed it to the artisanal mines. So, in reality, it was a sham import; it was not for mercury. We also caught a company in Paulínia that recycled mercury from light bulbs; it is great that we have recycling and reuse processes and so on, but it was recycling, declaring an amount of, I think, more than 300 kilos per year, and its installed capacity was perhaps not even 50; it was totally atypical; it was smuggled. Anyway, mercury is a big problem and a very harmful product to people and the environment. The consequences of improper use, without following all the precepts, lead to great problems.

Today, there is also the use of cyanide in this environment of illegality. Ibama has already caught several cases, giant tanks of 500 or 600 litres of cyanide. It is a problem, from the point of view of how to deal with this highly toxic and lethal substance. Perhaps the difference from mercury is that mercury sometimes kills more slowly, and people do not notice. Cyanide kills, and it is usually acute death. Sometimes the bodies are left there in the *garimpo*; there are several reports of this reality.

I spoke about the seriousness, but I am going to talk a little about the solution. It is not a magic solution. The solution to the problem, in fact, depends on a good organisation of the Brazilian State to genuinely face the problem; there is no way around it. Ibama is there destroying equipment and materials related to artisanal mining; in total, more than 400 excavators, 1,300 barges, and 70 aircraft have been destroyed. Putting this on paper amounts to several billions in losses for crime. Because the logic is to divest and incapacitate; to divest is to cause the loss of money, and to incapacitate is to remove the tool of crime. This applies in certain situations, not all, but where the best press images are sold, people publish and exploit this, and then there are the contradictions, the controversies involving the subject, and many people are being used as a 'manoeuvre mass' to position themselves as victims. In fact, they are victims, but not of the State,

because the State is there enforcing the law, but victims of other crime niches, of this illicit gold chain that involves them all, and perhaps the lack of other public policies that ultimately do not work.

But the State, in fact, needs to organise itself; it needs to build a strategy to deal with the problem. We will not solve the problem with isolated and detached actions alone. It will not be just Ibama alone carrying out its hundreds of operations. Right now, we are even in the Sararé Indigenous Land; it was a huge boom; everyone leaked out of other artisanal mines and ran to this land. In this Indigenous Land, you can call an Uber to order a snack; it is an established chaos, deep trenches hiding machinery, but we monitor and find them because we have methods for that. Just there, some 414 excavators were destroyed in two years of work; there is a lot of gold there, which is why it is compensating to buy one of those excavators that costs two or three million reais.

But returning to the point, the State needs to organise itself; it needs to build a strategy; it needs to build a plan to confront illegal artisanal mining, which, in my view, may have other realities; we have room to talk about these other realities. With organised crime, you cannot ask, "Please, let's do things differently; let's offer professional requalification and put the organised crime boss into another activity."

Now, you have several necessary measures; gold traceability to show the lawful, legal origin of the gold, in my view, is very important, but it has to be a good and effective tool. And when we look at other control experiences like timber, Brazil authorises about 8 million of native timber from the Amazon forest; the importance of the country's bioeconomy activity, the lawful and legal timber exploration with sustainability aspects, is complete, but there are those 30% or 40% perhaps that are involved in irregularities. And then you have to keep pressing so that those who are operating irregularly leave this market and those who operate regularly can flourish, grow, and develop the country economically, socially, and environmentally.

So, there needs to be a strategy, an action plan aimed at combating illegal mining in the country, and we are going to segment it, specifically for gold, which is the objective of this forum. You need a good strategy, the roles of the various actors involved: the government, the federal government, possibly even the state governments, and the private sector, the productive sector, and organised civil society itself have a role in this, so this needs to be organised.

In 2023, Brazil relaunched and reinforced the PPCDAm, which is the Action Plan for the Prevention and Control of Deforestation in the Amazon. What is the impact of this result? In two years, a 47% reduction in illegal deforestation in the Amazon. Brazil has the goal of reaching zero deforestation. And I also have a goal of zero illegal gold, and for that, we need this strategy.

It is necessary to have strategic governance; it is necessary to have good political leadership; it is not just the technicians providing the good solutions. We need political leaders who will actually back this strategy because this medicine has bitterness; it is not a sweet, pleasant medicine; it has bitterness, and we need to face this confrontation.

Closing my topic here, part of this plan is the people, especially those who are exploited; there were some work situations that are more studied, whether because they need to be requalified and repositioned for other activities or so that these people can work in lawful, legal, fully regulated mineral activity. That is a universe; there are various types of people who are professional miners and gold-panners, and there are those people who are opportunistically and circumstantially working in the artisanal mine; we perceive several of them in our day-to-day work. So, people are part of this strategy; it is not a strategy just for people, otherwise, it will not solve the problem, but they are part of this strategy. And Ibama, in its role and its institutional scope, is always willing to face this problem and eventually contribute to the plan.

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### Larissa Rodrigues – Research Director, Instituto Escolhas

I want to state that, based on what I have heard, we are in a state of evolution here. What I have heard from yesterday to today is very different from what I heard or what I participated in during recent years. We are not talking about that long ago. Many of the points I will make have also been raised here, which is to say there is a lot of convergence, which is excellent, but I want to draw attention to the fact that this convergence is not a starting point; it is already the result of an evolution. It may be that many of the things we are talking about here are already, to some extent, consensus, but they were not agreed upon a very short time ago. So these convergences are already the fruit of this effort.

I would like to highlight a phrase that Dr. Mauro mentioned yesterday at the opening of the event, which really stayed with me: "What we are discussing here does not have a single solution, it is not one proposal, it is not one government agency" — in fact, it is not one government, is it? We are talking here about a global market, about global actions, and I think it is important for us to always keep this in mind, not only for the effort that everyone here needs to dedicate to this but also when we evaluate the policies and what has been done in recent years.

I wanted to mention that a short time ago, as I said, we were truly in a state of chaos. Based on our estimates, always made with ANM data, we had indications of illegality in practically half of the national production. At that time, our package of proposals was very focused on the issue of the presumption of legality of acquired gold and the good faith of the purchaser, the lack of an electronic invoice (*nota fiscal eletrônica*) and the lack of origin traceability. Note that these are measures focused on commercialisation, not on extraction. And basically, up until the turn of 2022 to 2023, we were discussing these proposals, not because they were the only ones, but because at that time we needed to focus on them precisely because the situation was so absurd that we had a *boom* in illegal areas in the country. This was passing through commercialisation, reaching external markets, and arriving through the front door, which is the worst of all worlds. Now, we can ask, was everything legalised at that time? No, it was not; illegal extraction was exploding, but this gold arrived abroad with the appearance of legality, and everyone knew it; you did not need to be a genius to understand what was happening.



And in these proposals, I think it is also worth mentioning, as it is somewhat a hallmark of this event, the collaborations—for example, Júlio is not here today, but I want to mention Ibram. On the day Raul Jungmann was taking office as president of Ibram, we had a meeting with him in the morning; he was due to take office that evening. We presented this problem, and at that moment, Jungmann understood that this needed to be an agenda for Ibram, for large-scale mining. In fact, much of the effort to do this with the Central Bank and Receita Federal [Federal Revenue] for the electronic invoices was done in partnership, and I think it is a very fruitful partnership because when you approach the government, the oversight bodies, showing that we are together—there is the private sector, there is civil society organisation—we are asking for the same thing, with different hats, with different perspectives, but I think this gives even more strength to the agencies and the government to act.

And that is what happened. We talked a lot about the Supreme Court issue in the overturning of 'good faith' through the Direct Action of Unconstitutionality, the 7273. We participated in the initial petition for the motion. At that time, I never would have imagined that action would move so quickly, and of course, it moved quickly because there was a whole political issue involved; there was a whole concerted effort, perhaps generated by the bad, but which generated the good. Together, we had the action of the Receita Federal for the establishment of electronic invoices.

Now, we see the result of this, which I heard some people here describe as a situation of crisis, a situation of chaos. I completely disagree with that assessment because when we had the overturning of 'good faith' and the electronic invoice, already in 2023—that is, less than a year after it came into effect—we saw a 45% drop in official gold production registered by artisanal mines. In 2024, of course, this solidified; the already closed data, which I have not yet published, I will publish, but the calculation is already done, 2024 closed, it was an 83% drop. In 2025, it is very similar; we are at a level of around 5 tonnes. 2025 is still a little higher than 2024, there was a small growth due to the price of gold. But we essentially moved from a level of 30 tonnes registered to 5 tonnes.

Of course, the questions will come: "But did this gold stop being produced?" "The illegality has not disappeared; what we actually did was push operations into illegality." No! Whether an operation is legal or illegal is determined at the extraction stage. If the extraction was illegal before and reached the market, it is illegal; if the extraction was legalised, it reached the market legalised. Legality or not is in the extraction. So, there is no view that we pushed operations into illegality; they were already illegal, and we were not seeing it that way. And Jair stated here in his speech what this is: this is unfair competition. When you have entirely illegal operations within the formal market, which is what was happening—because when we did these analyses, they would ask me, "Oh, but how much of the gold is being laundered and how much is being smuggled?" It is all laundered; if it is not laundered, it is because there was no time to get to the laundry. Let's be frank since we are speaking frankly here.

But it is clear that this quantity of gold did not disappear, but it is also true that part of it was choked off. Jair mentioned here the results of the repression operations carried out with the Federal Police team in Indigenous Lands; this decrease you see in satellite

images of new area openings is a concrete result; this is data, not perception. When we see some operations migrating to Guyana, for example, these operations were here; now they are in Guyana. "Ah, but now they are a problem in Guyana." Excellent! Now France also needs to start looking at this with much more attention, which it was not doing before. So, we had a change.

Then people will say, "But now the market has become disorganised." For goodness sake, we implemented electronic invoices for a bakery! So, it is clear that this effort is not trivial; it was very important to have it, but we implemented an invoice, and having an invoicing system, having a *compliance* system, is what, in theory, will allow us to have traceability; it will allow the gold to arrive, for example, at the airport and not stop at customs. We know there is still a 'red channel' at customs, but the idea, to overcome the red channel, to overcome these stages, is built piece by piece, and we built some blocks of this path, of this equation, to have the 'green channel'. But we have not completed it yet; we have not completed this journey.

I would even say that, as some here have stated, this established chaos is actually a good moment because it provides the impetus. Since it is already destructured, since we have already exposed it, we are already more or less managing to separate the wheat from the chaff. Because before, the illegal was disguised as legal; now, it is not—it is in its proper place, where it always should have been. Part of this is tackled with repression, of course; the State will not be able to carry out repression that reaches 100 tonnes, but repression yields results, results measured by data, and results when you go to the labour floor of the *garimpo* and you see people commenting. Now, of course, it will not catch everything, and that is where the vision of how to make this illegal part as small as possible comes in, so that repression continues to act constantly and deals with it, slowly choking it off, and organising the other side.

As I said, we started organising the side here, the bodies, the agency, but it is a process. In this process, I would say that now with some things implemented, there are new sets of proposals, and we need to look ahead. One of them that we have not yet managed to implement is traceability. In fact, on this essential subject, I wanted to issue a call to action. Brazil needs to trace the origin of gold. I think we need this call now, which is, 'Let's do this!' The technology is already there, the system is already there, the actors are all here, we need to do it, we need to press the button, because I think traceability is important; it is almost like a management system, it is a management system for the sector. It is a management system where you can include all the actors, it is a system that will ensure there is no red channel at customs during export, because it will be integrated. You will not need to present yourself to customs because customs will already be there along with the agency's authorisations and permits and environmental licensing. It is a management system that also functions as an optimisation for oversight itself. Within a traceability system, we can implement alert systems and significantly optimise the work, generating a win-win situation. I cannot see who loses in this story; I think that is also why this subject is already consensus, but I think it is, as a management system, important to provide a framework for other actions that need to be taken.



How do we view the challenges we still face? First, I think the focus must be on extraction. As I said, some measures related to the commercialisation of gold were necessary, but in reality, I think the focus needs to be on extraction. You have legal extraction and you have illegal extraction. There is some part of illegal extraction that will always be illegal and does not want to be within legality, and I need—I want to believe—that it is small, and that the police and the oversight agencies will be able to handle it through repression, which must never stop.

You have operations that already function in a regularised manner, that already have environmental licensing, that already have the agency's endorsement, in short, that already have a complete package, and I think one way to combat illegality, first, is to ensure that those who are within legality remain within legality. And I think we have to do this without looking at the sector as it was viewed in the 1980s, because the 1980s had the conditions of the 1980s; we are already in 2025. I do not think what worked in the 1980s works today. Especially because the new regulations for the artisanal mining and gold commercialisation sector came in the 2010s, 2013, and the condition was already completely different.

So, as was also mentioned, we already have artisanal mining operations today that operate at the level of mining companies, perhaps not a large mining company, but a small mining company. Why not, in this effort to organise the sector, pull up? Instead of pushing everyone down, let's bring everyone up. Bringing everyone up means taking those who are already structured and making a regime migration. But there is the research, and how will I comply with the same criteria as a large mining company? It is possible to establish differentiated criteria, adapted criteria to bring these operations into the licensing concession regime.

Why? Then we start talking about incentives: you will have access incentives to the market, you remove intermediaries, you sell gold to whoever you want, you have access to financing, we have a much clearer institutional framework in several ways, and this also gives you a set of incentives. For the State or for Brazilian society, you can achieve better use of the potential of mineral resources, because we are talking about the management of public patrimony, we are talking about public resources, so it is in the State's interest that this mineral asset be used as best as possible.

But of course, will this solution work for everyone who is in artisanal mining today? No, and for those it does not work for, I like to think that it does not work yet. Why are cooperatives important? We already have a preference for cooperatives in the Federal Constitution itself, and the cooperative is important because it can organise and provide conditions for operations that would be individual, in the sense that it will have the environmental technician, it will carry out the entire process with the agency, it will have monitoring, it can put up a satellite, it can explore new technologies, and Gilson also said this in his speech: let's not think that this is just for the environment, just for the people, because I think the solution for the environment and for the people is when it involves the understanding that it also has an economic benefit; then we can close the equation, and the cooperative can provide this framework. "But perhaps this will work for one cooperative and not for another." We punish those that do not work, but you cannot

punish those that are within legality, that have the condition to leverage themselves, that have the condition to ascend, that have the condition to bring development; that is what I think the role of public policy is. We have to punish what did not work out, and that is the role of the State.

Returning to commercialisation, why can't a cooperative sell gold to a jeweller? Why can't a jeweller buy gold from a cooperative? I think Écio mentioned here that, for example, he is signing an agreement, a commitment there with companies from the Baixada Cuiabana region—excellent, that is it. Sometimes, from a chaotic situation, we manage to find arrangements that are very beneficial.

Now, why would I penalise those who are doing legal extraction? That is, I think the focus is not on commercialisation; it must always be on extraction. If the artisanal miner, if the miner, they are legalised, they are the ones who must be beneficiaries. If the market is going to pay a premium for this gold, as I think it should, that is where you have to give the premium, directly to those who are practising the right methods—rewarding or punishing those who are or are not practising the right methods, and not the intermediary.

And then people will say, "But are we going to remove the intermediaries?" Intermediaries will always exist, especially since sometimes you will not have a large volume to sell directly abroad and it will go through an intermediary. They can continue to exist, but it is different to have a market condition where there are commercialisation companies, there are intermediaries, it is very different from obliging yourself to have intermediaries, because what we generated in recent years was a justification that, in my opinion, is outdated, that comes from a very old time; we practically created an oligopoly. And when you create an oligopoly and you have the part of the companies with problems, we generate this chaos that we created today. Because you have artisanal mines that are fully licensed and could be selling freely in the market. We created a market distortion; in fact, to solve a problem, we created another, perhaps not at the moment it was created, but for today, yes.

So, in summary, I think that as a proposal, we should try to structure, to bring those who are already at a higher level into a mining framework and then discuss what those infra-legal criteria would be to frame small-scale mining that makes sense and that we can genuinely elevate the status of these operations. For those who are not yet at this level, work with cooperatives. And why not have cooperatives turning into mining companies? But we must strengthen the figure of cooperatives and think about market freedom and not create market distortions so that foreign buyers who are interested in Brazilian gold produced responsibly can buy and remunerate this gold, so that national jewellers can buy this gold. They may say that a lot of dubious companies will emerge, but the traceability system controls this when you see it as a management tool; everyone is registered. And then you punish those who need to be punished and reward those who need to be rewarded.