Jur

Whitepaper

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This version of the Whitepaper supersedes any previous versions

Abstract

Jur, a legal tech company based in Switzerland, has devised a decentralized legal ecosystem based on the blockchain technology in order to automate contract creation, formation, execution, enforcement and dispute resolution.

Specifically, Jur is creating an all-inclusive ecosystem for managing contractual relations that includes: (i) a framework to allow professionals to create legal contract templates supported by smart contracts to automate business transactions; (ii) a marketplace for such smart legal contracts that facilitates the dissemination and creation of new high-quality contracts; (iii) an integrated blockchain-based dispute resolution system.

This ecosystem is conceived as an alternative to traditional methods, as a response to the inefficiency of justice systems administered by state authorities, and it is driven by principles of free market, efficiency and economic incentives, with the aim of creating a new form of digital jurisdictions. The project developed by Jur will offer new opportunities for multinational enterprises ("MNEs") to optimize their operational flows, but above all will give small and medium enterprises and individual professionals a new way to do business in a safe and reliable way.

This will be achieved by moving from a model of contracts created on a bespoke basis by lawyers for individual clients and possibly enforced by national courts, to a model of modular, template-based smart legal contracts, whose contents can be easily customized for the benefit of millions of users and whose enforcement occurs directly on the blockchain (through two of the three dispute resolution mechanisms provided) in a way that is as automated as possible.

Jur is bringing the "new internet of contracts and jurisdictions" to the world to create a new stage of evolution in business relations.

Notes on this version of the Whitepaper

This new version of the Whitepaper presents the whole Jur ecosystem in detail, including new pieces that we have developed since the previous version. Specifically, this version includes an in-depth exploration of the Smart Legal Editor and contains a description of a major new feature that we have added since the previous version of the Whitepaper: the Court Layer. This version also renames the Hub Layer as the Community Layer.

Jur decided to illustrate the broad scope of the project in this document, including the main components of the developed ecosystem, and the main features of each of these components. The technical appendices will deal with a series of technical details relating to each part of the ecosystem which, in our opinion, merit a more thorough and nuanced explanation than authors normally present in Whitepapers.

Document's Versioning

The present document and any other document produced officially by Jur will follow the Semantic Versioning Standard[1]. While generally this standard is used amongst software developers to avoid the so called "dependency hell" it has been useful to keep consistent the versioning of Jur's official documents and to avoid the confusion of having different materials circulating on the web and within the Jur Community.

Any document has a version that consists of three digits X.X.X and the placeholders stand for the following:

1. Major version: this represents a major change in the vision of the project such as the addition of the Court Layer
2. Minor version: this represents a minor change in the existing vision, for example the addition of a feature or improvement of an existing Jur product
3. Patch version: this represents a minute change in the document that does not change the sense of the project and does not impact any feature in a major way. This will include fixing typos, minor rephrasing, updating data, etc.

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[1] Semantic Versioning Standard - semver.org

1. Executive summary

Currently, business relations are ruled by a system where contracts are subject to government entities that ensure enforcement. The judicial function in the strict sense is a power of the state, and therefore the state is the main provider of judicial services. However, these services are usually expensive and slow. Resolving a commercial dispute can take up to two years, and costs up to 45% of the value of the business from which the dispute arose.[2]

There are some Alternative Dispute Resolution ("ADR") mechanisms, such as commercial arbitration, a model that served national and international trade for centuries. In the last thirty years, various international organizations have successfully pushed for a wider application of this approach. However, arbitration has proved to be faster but more expensive than national judicial systems and, in any case, it does not eliminate the costs and time needed to obtain the enforcement of arbitral awards. That considered, arbitration only works for high-value deals, and even then, the cost is a major problem.

In addition, there is another fundamental issue, which lies at the root of the disputes: the preparation of the contracts. The contract industry has become unsustainable for private parties. Lawyers always work many hours on contracts in order to prevent any possible dispute. This results in a large number of billable hours that the client has to pay, without any real certainty that the dispute with the negotiating counterparty will really be prevented. The agreements may still be violated or not adequately performed.

In sum, the legal industry as a whole is already one of the most expensive in relation to the needs of enterprises and professionals, and year after year the existing legal frameworks become more complicated. Some big-budget MNEs can easily deal with such a system, but for many small-medium enterprises (the "SMEs") it is extremely

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[2] This maximum peak was reached in Asia according to the data reported in "Doing Business - Enforcing Contracts," The World Bank, 2016

difficult, if not inaccessible. Justice ends up serving a few economic players. Ethically speaking, this is not desirable, and Jur believes that such an imbalance prevents the network of economic relations from evolving, to the detriment of all society.

The solution to the problem is to redesign the entire tree of business transactions from the roots, i.e. from contracts.

Jur believes in the contribution that smart contracts can make to the world of business transactions.

Many scholars and futurists have asserted that smart contracts are the way forward, and many prominent economic players that are interested in business automation are already embracing and using the technology. However, it would be a mistake to believe that everything can be automated via smart contracts, especially when highly subjective elements must be addressed and evaluated. For example, how can a smart contract regulate aspects such as due diligence or conflict of interest?

The impossibility of objectifying everything that has always characterized traditional contracts is not destined to disappear with smart contracts, since many elements can be objectified and therefore automated, but not all the elements.

Therefore, dispute settlement mechanisms will always be necessary. As a consequence, a project that truly aims to evolve business transactions must deal with both contracts and disputes.

In light of the above, Jur has designed an innovative infrastructure for smart contracts that enables lawyers (or anyone else that is interested in doing so) to quickly create and sell smart contract templates, without requiring any development skills. In addition, Jur provides a toolset for dispute resolution that is based on the blockchain technology and meant to be quicker and more accessible than other existing ADR methods. Both these services (the "Jur Services") require to a certain degree human ability to assess and can be used from anywhere in the world,

pursuing the objective of drastically reducing the time required to manage business relations.

These two sides of the same coin are interconnected in terms of use: the parties to a transaction may use the contract templates made with the Jur software, or have a new template prepared with the help of their lawyers, and include a dispute resolution clause in the contract that provides for the activation, in case of dispute, one of the mechanisms of dispute settlement provided by Jur.

The entire ecosystem is fed by the hybrid utility/payment token named "JUR", the heart of the entire project, which acts as a currency for the use of the Jur Services, as well as rewards for a variety of professionals involved in the dispute settlement services of Jur.

Tokenomics logic, as well as game theory mechanisms, coherently bind the Services and the JUR Token expenditure/gain, with the aim of ensuring the quality of the services, transparency, meritocracy in a decentralized ecosystem in which the choices are not taken by any central authority.

2. The solutions to the problems and challenges of the current legal market: the Jur Services

The American legal market alone can be estimated as 437 billions.[3] According to other sources, the global size of the market will exceed the trillion of annual value in 2021.[4]

Genuinely new intellectual account for a fraction of these costs. A large part of these costs is generated by standard and redundant activities, which leads to inefficiencies both on the side of the legal services provider (i.e. mainly the law firms) and on the side of the clients.

The financial crisis of 2008 dealt a severe blow to the large law firms, which find themselves facing a demand for legal services with rather controversial characteristics.

Traditional methods of billable hours and contracts' creation collide with companies' needs. Some companies prefer to internalize at least part of the legal assistance, equipping themselves with in-house lawyers, other companies prefer to entirely outsource this legal assistance and choose the firm that offers more, better and at the lowest price.

The balance seems on the verge of breaking down as the biggest law firms fail to ensure a good work-life balance for their lawyers, companies are demanding more and more at low cost, and the emergence of legal tech products threatens to replace lawyers with software based on the automation of certain operational processes.

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[3] www.legalexecutiveinstitute.com

[4] www.statista.com

If not correctly addressed, this situation could degenerate: on the one hand, the job market for lawyers could suffer a drastic contraction, since working for law firms appears less and less attractive and at high risk of success given the potential reduction in demand for traditional legal services; on the other hand, companies would make a serious underestimation mistake in believing that lawyers can be completely replaced, that everything can be automated, without taking into account the high risk of exposure to litigation.

Offering approximate legal services on the basis of what entrepreneurs not fully aware of the risks demand is the way to further increase litigation, and further increasing litigation means raising the costs incurred by companies to manage their business flows, slowing down those flows, and congesting the bureaucracy of the states, which remain the main providers of justice through national courts. Companies operating with larger budgets obviously have the possibility of resorting to commercial arbitration, a mechanism known for being faster, but also significantly more expensive than litigation before national courts, as well as not exempt from criticism in the light of longstanding problems that this dispute resolution mechanism is dragging on. This will be discussed in section 4.1 of this Whitepaper.

Jur is aware of the contribution that AI technology can make to the legal world, in particular by optimizing the creation of contracts, so as to make the standard legal activity more accessible. The adoption of AI and further developments of this technology could solve the problem of one-to-one consultancy in the field of contracts. AI is a means of creating user-friendly and "intelligent" contract templates, but this does not solve the problem of contract enforcement in any way. For these reasons, Jur believes that optimizing the management of contractual relationships means first of all improving enforcement, automating it where possible.

Blockchain technology and smart contracts are the means to make automation a reality. Therefore, Jur uses blockchain technology and smart contracts as the basis of an ecosystem that can cover the life cycle of a legal contract from the negotiation and creation of the contract, to the resolution of disputes. For issues of greater

complexity that cannot be resolved through complete automation, Jur still uses blockchain technology to evolve traditional commercial arbitration.

Jur's ecosystem translates into the Jur Services provided to users.

The Jur Services, described throughout the Whitepaper, arise as a response to the scenario outlined so far. They aim to meet the needs of businesses while preserving the role of legal professionals and offering them tools to ensure faster, cheaper, and more efficient legal assistance, for the benefit of all players involved in the legal market.

The Jur Services include:

- the "**Jur Platform**", a platform for the creation and sale of "Smart Legal Contracts", which are fully customizable contracts. With Jur's easy-to-use interface, the user can select and assemble contract elements that contain both the necessary computer code and accompanying legal language. Hence, the resulting technological product is a truly "smart" and truly "legal" contract. The Jur Platform consists of:
  - the "**Jur Editor**" allows users to create Smart Legal Contracts either starting from a blank document or using templates made available by other users;
  - the "**Jur Marketplace**", facilitates the sale of smart legal contract templates created by users of this platform;
- three innovative dispute resolution mechanisms graduated in complexity according to the value of the disputes, which aim to create real jurisdictions on the blockchain, namely:
  - the "**Court Layer**", digitized commercial arbitration which renders arbitration awards that are binding and fully recognisable and enforceable under the New York Convention, designed for high-value disputes;
  - the "**Open Layer**", an online dispute resolution mechanism where the decision-making process is open to all participants through game theoretic principles, mostly suited for low-value disputes;
  - the "**Community Layer**", an online dispute resolution mechanism where only experts who are members of the community selected by the parties can participate in the decision-making process, designed for medium value disputes.

Each of these Services requires JUR Token for using them, and to reward professionals who - through the various methods described in the following

paragraphs - can contribute with their expertise to the functioning of the Jur ecosystem.

Since the Jur project began officially in February 2018, Jur has made significant progress toward the goal of becoming the global go-to dispute resolution system for contracts of any size. Jur has developed a working MVP, improved the full featured product, released the Open Layer smart contracts on testnet, deposited a patent pending on its voting mechanism, and achieved legal compliance with Swiss regulations, among the strictest in the world.

Jur's commitment extends even further, with the strategic decision of including a Scientific Committee that includes some of the most influential law professors from the most important universities in the world. Jur's Advisory Board, moreover, includes experts in the field of blockchain and cryptomarket.

Last but not least, Jur's spontaneous community has developed over time, and has grown to include scientific, technical and legal experts all around the world. Jur can thus leverage a solid interest that arises from professionals' needs for practical solutions to the above stated problems. See more at part 5.6.4 on the Jur Community.

In conclusion, just as Bitcoin has created a global uncensorable system for transactions that does not rely on any government or national law, Jur creates an ecosystem for creating and enforcing contracts that is also global, resistant to corruption, and potentially usable without recourse to national judicial bodies, with the exception of the enforcement of arbitral awards.

3. The Jur Platform for Smart Legal Contracts

Currently, participating in the emerging world of smart contracts is the privilege of a few companies that create their own smart contracts for their needs. This lack of access is rather ironic, considering that distributed ledgers are designed to allow and facilitate peer-to-peer relationships in trustless mode, but they are not always easy to use and understand.

Jur believes that there should be a decentralized system that allows the construction of easily customizable smart contracts for a multitude of cases, available to billions of individuals and companies. Jur also believes that it is imperative to allow anyone to make deals safely, pay for services and goods, integrating escrow in a simple way, and, when necessary to have a reliable dispute resolution mechanism.

This is where the Jur Platform comes in: this infrastructure aims to offer a wide choice of scalable Smart Legal Contract templates that can be customized with the Jur Editor, while the Jur Marketplace provides the opportunity to share such templates with a potentially unlimited number of users who, in turn, will be able to make further customizations induced by the concrete case to which the template is applied.

Overall, the Jur Platform and the Smart Legal Contracts are designed to achieve the following six goals:

1. creation of highly customizable smart contracts, with milestones (i.e. the implementation of steps for the progressive release of the amounts deposited in escrow);
2. payments in either JUR Tokens or stable coins;
3. JUR Token as a utility token allows users to create and buy Smart Legal Contracts, as well as to act as arbitrator, voter or contractual party/user on each integrated dispute resolution Layer;
4. setting of duration and other complex variables (i.e. the implementation in the contract of terms, conditions and events that shift the evolution of the

contractual relationship in one direction rather than the other or that simply trigger subsequent rights and obligations);

5. self triggering clauses linked to external elements (i.e. clauses depending on external APIs provided by third parties that are trusted by both the counterparties, for example, to approve an insurance claim if there was a heavy rain in the area object of the agreement);

6. a marketplace on which developers can create third party extensions that can be plugged in any Smart Legal Contract offering a way to automate a transaction based on the actions on those external platforms, for example when an internet domain name is actually transferred from party A to party B, unlock funds in escrow.

For those aspects of the contractual relationship that cannot be automated, the dispute resolution mechanisms designed by Jur fill such gaps.

3.1. The Jur Editor

As already mentioned, Jur developed the Jur Editor for contract automation, which takes advantage of "drag and drop" features to facilitate the creation of clauses.

Jur Editor is equipped with a system of data collection and analytics that identifies which clauses led to the fewest disputes and recommends them to users.

The first version of this system aims to track the contracts that determined the activation of the dispute resolution mechanisms of Jur: if a certain clause was contained in one (or more) contract(s) from which one (or more) dispute(s) arose, that very clause will be indicated to the user as less dispute-proof compared to a similar clause used for contracts that never caused disputes.

A subsequent and more advanced evolution of this system will allow an even more extensive analysis and tracking: the clause will be indicated as most at risk for the user if the rights/obligations governed by this clause have previously caused disputes addressed through Jur's channels for dispute resolution.

Lawyers and other experts willing to create their own Smart Legal Contracts templates have to stake JUR Tokens. The templates are created by using the Jur Editor and are subject to a decentralized peer-review system. The creators of templates will gain or lose JUR Tokens depending on the outcome of such

peer-reviews, and may use these templates for their clients and/or earn JUR Token in turn through the sale of the templates on the Jur Marketplace.

Lawyers are frequently mentioned as main users of the Jur Editor, but to ensure clarity, Jur points out that it is not necessary to be enrolled in any official register of lawyers/bar association or have other special bureaucratic requirements to be eligible for the use of the Jur Editor and the Jur Platform as a whole. Anyone who wants to use these services can do so, regardless of whether they are lawyers or other persons interested in contract drafting/management.

In addition, Smart Legal Contracts benefit from the dispute resolution services provided by Jur. Indeed, as better explained in paragraph 4, more complex contracts include non-automated elements that should be addressed, thus it is very important to support built-in dispute resolution mechanisms. Through the Jur Editor this is achievable defining a truly Smart Legal Contract.

3.2. Jur Marketplace

Jur Marketplace, as previously mentioned, is the digital space where creators of Smart Legal Contract templates and users of the same can, respectively, sell and buy these templates.

The Jur Marketplace is an essential component of the Jur Platform and the whole ecosystem of Jur.

Without the Jur Marketplace it would not be possible to spread the content created on the Jur Editor to a wide audience. Dissemination is also an important opportunity to share know-how and drive the creation of more refined templates. Jur's goal is to create a review mechanism that will allow the best contract creators to flourish, resulting in a higher quality for the legal templates available on the Jur platform.

Lawyers and any other professional who deal with contract drafting/managing may be interested in using the Jur Platform because it will allow them to reduce the time needed to create contracts. They can offer customers the efficiency of

self-executing clauses or, where this is not directly feasible, offer them contracts that are backed up by the fast and cheap dispute resolution systems of Jur.

In addition, the customizability of the contract according to the needs of the user is supported and facilitated by the possibility of dedicated legal advice: the Jur Marketplace allows users to contact the templates' creators to receive assistance in relation to customization, and more generally to establish a direct contact with the community of experts that contributes to the creation and modification of Smart Legal Contract templates.

3.3. Exploring the concept of a Smart Legal Contract

Jur represents an evolution in the creation of digital agreements and it aims to evolve the current notion of a digital contract. Therefore, find below a classification of existing contract categories, starting from traditional legal contracts, up to smart contracts.

Traditional Legal Contracts: these are traditional agreements concluded by the parties, orally where permitted, or in writing according to the preferences of the parties or where required by law for the validity of the contract. Today, these contracts can also be signed digitally, thanks to the advent of the electronic signature. In the event of a dispute, courts provide slow and costly dispute resolution proceedings.

DIY Legal Contracts: "Do It Yourself" Legal Contract services, such as LegalZoom and Rocket Lawyer, have been available in the U.S. for many years. These companies prepare interactive contract templates and sell them online. The user can fill out a wizard and get a sufficiently precise contract, saving a lot of money. While the customized template innovation saves users a lot on contract creation expenses, it does nothing to resolve the issue of slow and costly dispute resolution.

Smart Contracts: computer programs that are designed to perform certain operations in an irreversible and incorruptible way after their preconditions are met and therefore can be used to automate certain transactions, including moving funds.

Depending on their characteristics and on the concrete legal function performed, if any, they can be considered as true legal contracts supported by self-executing and/or self-enforcement features.

Smart Legal Contract: Jur developed a technological solution for the creation of more advanced models of digitized and automated "Ricardian contracts" (those that incorporate elements of natural language with code elements) in order to allow legal experts to manage legal complexities and create templates that will be available to users. In order to fill any gaps in protection, especially in cases where the complexity of the matter or the presence of subjective elements does not allow the self-enforcement typical of smart contracts, the Smart Legal Contract should provide an integrated dispute resolution mechanisms. Jur provides such systems as a native feature.

In other words, Smart Legal Contracts are the combined result of the application of skills traditionally held by lawyers, software programming, and blockchain features. Using templates created by lawyers or other experts, users can drag and drop clauses, enter data relating to the parties and the performance of the contractual relationship, and set terms, conditions, and dispute resolution clauses, including the possibility to activate blockchain-based dispute resolution mechanism.

In short, Jur aims to provide contracts truly "smart" and truly "legal" in the fullest sense of these words.

This logic allows lawyers, for the first time, to create products potentially scalable to billions of users instead of one-to-one consultancy services.

Summing up: experts can create detailed templates, possibly containing many alternative clauses according to a drag and drop logic, so that such templates can substantially evolve into widely-effective frameworks for given matters (e.g. an international web development agreement template so detailed that it could serve as a flexible framework to address the related subject matter for almost any web development project) by setting each variable deemed appropriate.

3.4. Usage of Jur Marketplace products

Users can access the Jur Marketplace and select the product that better suits their needs. All payments for the Service have to be made in JUR Tokens.

The parties can activate a Smart Legal Contract that they have either created using custom templates or created from scratch.

The negotiation with the counterparty to define all the terms and conditions of the contract takes place within the Jur Platform: every time the party that has purchased the Smart Legal Contract replaces a clause or fills in one of the empty fields (for example by entering an amount), the other party, which must also be registered on the Jur Platform, will receive a notification. The other party can then confirm the action taken by the proposing party or submit a counter-proposal by selecting a different clause or filling in the empty field with a different piece of data.

As mentioned above, Smart Legal Contracts are extremely flexible both in terms of elements of pure Ricardian smart contract and in terms of legal provisions expressed in natural language. The following is a sample list of elements on which the parties can act:

1. duration, between the minimum and maximum allowed by the framework;
2. amount of payment (all or divided into tranches at different times, so as to avoid blocking the entire amount before the start of the contract);
3. milestones set up;
4. selection of KPIs among the variables allowed by the framework;
5. selection of the parties;
6. selection of benchmarks among the variables allowed by the framework.

3.4.1. Decentralized reviews of Smart Legal Contracts

Providing users with clear and immediate information on the quality of Smart Legal Contract templates for sale on the Jur Marketplace is a truly important part of the system. To ensure this, Jur Marketplace allows for user reviews, which work in a way that is similar to reviews left by purchasers on any other type of digital platforms.

However, Jur is aware that certain information asymmetries could prevent users reviews from reflecting the real quality of the Smart Legal Contract. That considered, Jur reserves the right to additionally implement a decentralized peer-review system derived from the mechanism provided for the Court Layer, if over time the user reviews should not be perceived by the community of users of Jur Services as sufficiently useful.

3.4.2. Service payments and meta-transactions

Payments on the Jur Platform can be made in JUR Token.

In order to offer maximum flexibility in terms of payment, also taking into account those users who may have little familiarity with cryptocurrencies and specifically with the JUR Token, Jur reserves the right to welcome within its ecosystem meta-transactions and mechanisms of fee delegation with the purpose of reducing entry barriers and increase user adoption. For instance, a third party might accept US dollar transfers for payments and handle the process of converting them to Jur and paying fees on behalf of inexperienced users, removing barriers to entry.

3.5. The inherent limitations of smart contracts

Some blockchain enthusiasts hold the naive belief that the blockchain can solve any kind of problem. But this is far from true, as blockchain technology and smart contracts have significant limitations. To better illustrate this problem, let us consider two types of smart contracts: non-deterministic and deterministic smart contracts.

Non-deterministic smart contracts, by definition, do not contain all the elements required to reach a conclusion. They are not completely self-executing, because they cannot automatically trigger transactions without data that is not directly accessible to the contract, therefore they are not suitable to fully replace a traditional legal contract.

Deterministic smart contracts, by contrast, contain all the elements that allow automated analysis of the available data to trigger the contract's execution by moving a sum from one account to another with no external input. For example, a deterministic smart contract could be used to allow two parties to swap one cryptocurrency for another, with each party depositing an agreed amount into escrow and the smart contract executing the exchange when it detects that the deposits have occurred. In this case, the deterministic smart contract could perfectly replace a traditional legal contract because the relevant elements are digital assets which can be stored on the blockchain, and all these assets are moved by the smart contract itself.

But what happens when the transaction relating to digital assets is part of a broader and more multifaceted legal affair?

In order to better understand the limitations of smart contracts, let us consider a different example of a deal where someone wants to purchase real estate using a future tokenized land registry system, that represents a portion of real estate with a token. In theory, the purchase transaction of a property can be automated. Therefore, following the transfer of an agreed-on sum escrowed (on the blockchain) to the seller, the ownership of the property would be transferred to the purchaser. This would suggest that this smart contract fully replaces a traditional legal contract and simplifies all the legal complexities of the real estate sector, making the presence of a professional, lawyer and/or public notary, unnecessary. However, such a conclusion is incorrect, since the automatic swap of two digital assets does not eliminate the true complexity of the case, on the contrary, it omits a network of legal relationships intimately connected with the transaction. Consider as examples the presence of creditors or a hereditary assignment, allowing further legal action against the new owner of the property.

If the smart contract is not able to address the full potential complexity of a real estate transaction, then it does not adequately replace a traditional legal contract and all the guarantees it offers. However, this disparity in terms of scope can be

overcome where the smart contract offers the possibility of filling gaps, i.e. it includes a   mechanism to seek human insight on those aspects that the smart contract has not been able to automate.

Jur believes that a quick and low-cost dispute resolution system attached to a smart contract is a simple and effective way to integrate human judgment to address any issues that the smart contract cannot address. What has been described is exactly what Jur offers, that is the possibility to connect to the smart contract to one of the dispute resolution systems offered by Jur.

4. Jurisdictions on the blockchain: the courts of the future

Society stand poised at the edge of a watershed event. In a way, conditions today are similar to 1995 at the dawn of the internet. In the two decades from 1995 to 2015, we saw radical changes in the world economy brought on by the rise of the internet era. Now, blockchain and decentralization are about to bring another two decades of dramatic change.

The internet 2.0 revolution solved a wide range of problems and vastly increased economic efficiency. But this revolution did very little to modernize our legal systems, which have not kept pace with technological and economic progress.

The problem is widespread and costly everywhere in the world. In the best case, in higher income OECD countries, dispute resolution and enforcement cost an average of over 20% of the amount in dispute and decisions take well over a year. In Asia the costs reach an average of over 45%[5]. The largest 30 arbitration firms managed disputes with a total annual value of 1.7 trillion dollars in 2014.[6] Smaller firms and government courts add to this total. Resolution mechanisms for disputes over contracts concerning smaller sums are so ineffective that the only rational response to the breach of contract is often to give up and walk away. Lack of trust creates friction that stifles business. One study estimates that businesses forgo trillions of dollars worth of possible profit opportunities due to lack of trust.[7]

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[5] Data based on "Doing Business - Enforcing Contracts," The World Bank, 2016

[6] "Trends in International Arbitration" FTC Consulting. www.fticonsulting.com

[7] References are included in our longer article on economic impact of lack of trust resulting from lack of adequate dispute resolution systems. www.medium.com .

The World Bank notes that ineffectiveness and slow speed of dispute resolution seriously affect the economic health of each Country.[8] Specifically, data provided by the World Bank reveal that the average worldwide time to resolve a contract dispute is between one and a half to three years[9]. And this is only considering first judgment; appeals can lengthen the total process and increase the overall costs which can reach up to 50% of the amount at stake. Even in the most efficient group of countries the average cost is over 25%. In developing nations the need is often dire; in Cambodia, the average cost to resolve a dispute is 100% of the amount in dispute[10].

Studies show that businesses operating where courts are more effective have greater access to credit and are larger and more efficient than businesses operating under less effective court systems[11]. Confidence in court systems also increases the willingness to invest.

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[8] World Bank. 2004. World Development Report 2005: A Better Investment Climate for Everyone. New York: Oxford University Press.

[9] See www.doingbusiness.org

[10] See www.doingbusiness.org

[11] World Bank. 2004. World Development Report 2005: A Better Investment Climate for Everyone. New York: Oxford University Press.

Because the national courts are so slow and possibly biased toward parties based in their jurisdiction, commercial arbitration is usually the preferred option among the biggest economic players because of faster proceedings, a supposed greater neutrality of judgment with respect to the place of incorporation of companies, and a high level of confidentiality. However, such a mechanism is not a viable solution for everyone because of the high costs of the proceedings. In addition, the aforementioned general neutrality does not necessarily guarantee specific impartiality, since it is not uncommon for lawyers who have advised certain companies to be appointed by that same companies as arbitrators for subsequent disputes.

It is true that an arbitral tribunal must always be composed of an odd number of arbitrators, and that therefore, in a panel of three arbitrators, one of the three professionals is likely chosen by true mutual agreement between the parties. Also, it is true that sometimes the parties delegate the appointment of the arbitrators directly to the institution that acts as an arbitration chamber/institution. But even in such cases there is a lack of solid mechanisms to ensure there are no conflicts of interest, to exert quality control over the work of the arbitrators, and to reward the professionalism shown by the arbitrators.

Alongside commercial arbitration, ADR mechanisms have also developed widely. Many countries have adopted legislation to promote conciliation, mediation and other ADR mechanisms, even imposing their use in some matters as a mandatory attempt to reconcile the dispute, before taking legal action before national courts. More importantly, Online Dispute Resolution ("ODR") alternatives have also been arisen to handle relationships between businesses and customers.

The problem with ADR mechanisms, regardless if they are online or local, is that only some of them, and only in some countries, and only upon the occurrence of certain conditions exhaustively indicated by law, produce results that have the same legal force as a judgment issued by a national court. In most cases, ADR judgments are weak in terms of enforceability, certainly weaker than the arbitral awards that are

issued as a result of arbitration proceedings. Specifically, the results produced by ADR mechanisms do not benefit from a powerful instrument such as the New York Convention which offers arbitral awards recognition and enforcement in more than 150 countries.

Moreover, this is not the biggest issue: by their very nature, ADR procedures offer mediation, not arbitration, and hence they require a compromise between the parties, a mutual voluntary agreement. Simplifying, it is a matter of mutually and voluntarily concluding an agreement that resolves a dispute arising from another agreement. Without such a voluntary mutual agreement, it is not possible to issue a conciliation or mediation report, therefore the dispute cannot be settled. With arbitration, in contrast the parties consent at the beginning of the contract to abide by the decisions of the chosen arbitrators; no further consent is required and a resolution of the dispute is guaranteed.

In any case, there is no doubt that the arbitration chambers/institutions and ADR institutions will dominate the dispute resolution field in the future as regards business transactions. In fact, for a long time OECD leaders have been pushing and continue to push in the following directions:

- the adoption of laws which support self-enforcement mechanisms;
- overcoming the difficulties concerning contract enforcement, since experience often shows that the process can be limited, slow or partial;
- reducing costs to a plaintiff to enforce a contract;
- encouraging ADR mechanisms as a means of resolving disputes is preferred over judgments before national courts.[12]

If the common belief is that arbitration and ADR are the channels to be promoted and preferred over national courts, then society should work to resolve the current problems of such dispute resolution mechanisms.

Jur believes that the evolution of these mechanisms can be achieved through digitization and the adoption of blockchain technology. For these reasons, Jur has

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[12]www.oecd.org

designed three dispute resolution systems, whose functioning is explained in the following paragraphs.

4.1. The Court Layer: "smart arbitration" on the blockchain

The Court Layer combines some of the benefits of decentralization, blockchain technology, and digitization in general, with traditional arbitration mechanisms. By doing so, Jur provides a form of "smart arbitration" that ensures complete legally binding decisions that are suitable for highly complex disputes over large sums, and achieves this in an affordable way.

The opportunities provided by technology may speed up proceedings and reduce some of the costs (e.g. zero travel and accommodation costs for the parties, their lawyers and arbitrators). Specifically, the Court Layer offers improved arbitration that:

- reduces costs by standardizing processes;
- reduces time by increasing management efficiency;
- facilitates access, as the whole procedure is entirely online.

The Court Layer will also offer higher quality decision-making processes through the following elements:

- arbitrators selected by the system with total impartiality;
- decentralized peer-review mechanism of the preliminary draft decision, with the possibility in case of manifest injustice to trigger a rewriting of the decision by assigning it to new arbitrators who replace those initially assigned;
- the arbitrators are paid in JUR Token on a fixed basis (they can lose reputation points, not payment);
- the peer-reviewers will be rewarded in JUR Token on the basis of the quality of the service rendered, i.e. on the basis of how much the score assigned by them to the provisional draft arbitral award differs from the average scores given by all the peer-reviewers (more details are contained in the Appendix dedicated to the Court Layer);
- accountability for arbitrators, arbitration chambers, and peer-reviewers on the basis of a reputation system

The following paragraphs describe in detail the functioning of the Court Layer and its features.

4.1.1. The Arbitration Hubs

In order to offer their services on the Court Layer, arbitration boards, chambers of commerce, and any other type of arbitral institution or private body that wishes to offer an arbitration body must register as a "Hub Admin." The Hub Admin must establish an "Arbitration Hub", that uses the Jur ecosystem and that conforms to the basic principles of the Court Layer.

The Hub Admin creates the Arbitration Hub by staking JUR Tokens. This amount of JUR Token constitutes a kind of guarantee fund, hereinafter referred to as the "Performance Bond", which serves to guarantee the parties to the dispute that the Arbitration Hub is able to render corruption-free high-quality decisions. The amount of the required Performance Bond is proportional to the maximum dispute value accepted by the Arbitration Hub (the proportion criterion is explained in the Appendix dedicated to the Court Layer).

Once the Arbitration Hub is established, it will have to equip itself with arbitrators. Arbitration disputes in the Court Layer can be decided by a sole arbitrator or by an arbitral tribunal composed of three arbitrators. The sole arbitrator is ideal for disputes up to 150,000 USD equivalent, while for higher disputes an arbitral tribunal composed of three arbitrators is recommended. For these reasons, each Arbitration Hub must be able to count on an adequate number of potential selectable arbitrators.

How to become an arbitrator in the Court Layer

Jur provides two methods for selecting arbitrators. The Hub Admin chooses the method it considers most appropriate for its Arbitration Hub.

1. Centralized Selection: the Hub Admin establishes the rules for recruiting arbitrators and manages their selection.
2. Decentralized Selection: the Hub Admin only defines the objective requirements that the arbitrators have to meet. Hence, anyone interested in

acting as an arbitrator must send an application to the Hub Admin and stake JUR Tokens. The evaluation of the application will then be delegated to the selected method by the Hub Admin either the Open Layer or the Community Layer, according to the mechanism explained in paragraphs 4.2 and 4.3. Such an evaluation will be recognized by the system as a very simple dispute, in which the voters are asked whether or not they approve the admission of the applicant as an arbitrator.

The Hub Admin must also issue "Hub Rules" which detail the functioning of the Arbitration Hub and the arbitration proceedings rules. Jur designed the Court Layer considering a number of basic features and principles in order to release a framework that allows Hub Admins to establish Arbitration Hubs capable of enacting binding, recognizable, and enforceable arbitral awards.

Specifically, the Court Layer is designed to ensure:

1. the parties' right to defense;
2. the cross examination of the parties;
3. the impartiality of the arbitrator(s).

In addition, Jur will release a standard suggested set of basic Hub Rules that can be adapted by each Hub Admin.

Jur anticipates three types of standard procedures, which are preselected by the parties or arbitrators depending on the level of complexity of the issue. Each Arbitration Hub will also be free to set up other forms and establish timeframes and costs for procedures. These are three basic examples based on common experience in the field of arbitration.

1. **Documentary Arbitration**: the fastest form of arbitration does not provide for hearings or witnesses. For this reason, the costs, in general are very low. As an example, considering a € 10,000 value dispute, the total cost of arbitration may be between € 700 and € 800 in the case of a single arbitrator. For a dispute of € 25,000 in the case of a single arbitrator between € 800 and € 1300. The time for resolving disputes of minor complexity will be less than two months in the worst case scenario.

2. **Quick Arbitration**: this form is limited to two hearings maximum and a maximum of two witnesses per party with a cost reduction up to 30% compared to ordinary arbitration and a time limit of about three months.

3. **Ordinary Arbitration**: in general, for a dispute over € 150,000 or more, the costs for a panel of three arbitrators may start at € 6,000. Here the arbitration

can take up to 3 or 4 months, depending on the number of witnesses and complexity of the subject.

Hence, Jur delivers a suitable framework for the creation of a true digitized legally binding arbitration. Then it is up to the individual Arbitration Hub to set up Hub Rules fully compliant with international law (e.g. New York Convention, UNCITRAL Model Law on International Commercial Arbitration) and the domestic law of the country where the Arbitration Hub has its registered office, so as to ensure the legal force of the awards issued.

When the Hub is created, the Hub Admin inserts various parameters, such as the minimum and maximum number of arbitrators, the amount of the Performance Bond, the minimum and maximum number of JUR Tokens present in the wallets of the arbitrators themselves for the peer-review vote, the fees to be paid to the Arbitration Hub for resolving disputes, the rules for splitting the fee between the Hub Admin and the arbitrators, and duration of each phase of the procedure.

Jur has chosen to give the Hub Admins a certain amount of freedom in the choice of the Hub Rules and in the structuring of the arbitration proceedings, because Jur believes that a global network of Hubs that freely compete with each other to offer the best possible quality can be a benefit for the entire legal market, just as it happens today for traditional arbitral institutions that compete to offer non-digitized arbitral proceedings.

4.1.2. Dispute management within the Court Layer

The Court Layer can be used to resolve disputes arising out from traditional contracts, smart contracts, and Jur's Smart Legal Contract in a legally binding way, provided that an adequate arbitration clause is included in the contract.

The arbitration clause usually specifies the particular legal system to refer to when interpreting the contract and solving disputes arising out from it. Such clauses are frequently titled "Applicable Law and Jurisdiction." The parties can choose the

national law of one specific country as applicable law or let the dispute be decided according to a general universal notion of fairness.[13]

Users who submit disputes must pay a fee that is split between the Hub Admin and the arbitrators in the Hub. The Hub Admin decides the amount of such fees and how they are split as well as other policies of the Hub.

When a dispute is submitted to the Hub, a truly random selection of the arbitrators occurs within the Hub. The arbitrators are selected from among the professionals whose applications have met the selection criteria for that Arbitration Hub. The requirements for each Arbitration Hub are public, so applicants know if a Hub is appropriate for them and end users understand what qualifications arbitrators in a particular Hub will have, helping them choose the best Hub for their contract.

Each party, assisted by its own lawyer, will submit one or two statements, depending on the Hub Rules. The hearings will take place online. Indeed, the entire arbitral proceedings will be managed exclusively online.

At the end of these digitized arbitral proceedings (whose estimated duration is 60 days on average), the arbitral tribunal will issue its decision. Each stage of the arbitral proceedings - including the opening of the request for arbitration, the video conferencing hearings, the presentation of documents, the hearing of witnesses, and the issuance of the final decision - shall be digitized and notarized on the blockchain.

Moreover, to ensure and enhance the quality of the decisions, Jur is introducing a decentralized peer review system. The peer review does not constitute an incentive in the decision-making process, so it does not interfere with the legally enforceable status of the arbitral award, but it ensures high-quality arbitrators. Here is how it works: before the final decision is issued, the provisional draft of the arbitral award is

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[13] Judging on the basis of fairness (in legal Latin, ex aequo et bono) means adopting a decision that is not bound by the application of an abstract legal rule but is drawn up on the basis of an awareness of the socio-economic, as well as legal, aspects of the dispute. The strict application of abstract law to all the infinite possible cases of real life could in fact determine, in the individual case, situations of substantial injustice; for this reason, under certain conditions, the legislator allows the judge to create and apply an ad hoc rule. The doctrine therefore speaks of equity as the justice of the individual case. This method of judgement is covered by many national jurisdictional systems and is usually accepted by the arbitration panels provided that the parties have decided that the dispute is decided in this way.

submitted for evaluation to three randomly-selected peer viewers in the Jur ecosystem. Jur may also choose to test the system with five peer reviewers per arbitral proceedings, and to propose to the established Arbitration Hubs the solution that best suits their needs.

The peer reviewers express their evaluation by assigning a score to the provisional draft of "arbitral award" - the normal term for the decision resulting from arbitration. Subsequently, such scores are incorporated into a reputation system that ensures high-quality arbitrators. If the peer review is positive overall, the provisional draft proposed by the arbitrators will become the final and binding arbitral award.

If the peer review is negative overall, the dispute will be reassigned by the system to new arbitrators, who will issue a new decision. This second decision will be submitted to the peer review mechanism for the sole purpose of assigning a score to the decision, and therefore in order to give new input to the reputation system that tracks the work of the arbitrators. A second reassignment of the dispute to new arbitrators will not be allowed. Costs for such proceedings shall be covered with funds from the Performance Bond.

As previously mentioned, peer reviewers earn or lose JUR Tokens based on how closely their score matches the average score of all three peer reviewers. The logic behind the voting mechanism and economic incentives/disincentives is based on game theory. This, together with all the other technical specifications of the Court Layer involving numbers, is discussed in depth in the Appendix dedicated to the Court Layer, which will be periodically updated according to the tests conducted.

At the end of the arbitral proceedings, each party may download the final arbitral award, and seek enforcement according to the principles of the New York Convention.

To summarize, the arbitral proceedings work as follows:

1. arbitration clause or arbitral agreement grants the parties to a contractual relationship the right to initiate a dispute and refer it to the Court Layer for resolution;

2. one of the parties sends a request for arbitration to the Arbitration Hub previously chosen by means of the arbitration clause included in the contract, and pays the fees;

3. notification to counterparty;

4. random selection of the sole arbitrator or arbitral tribunal composed of three arbitrators;

5. each arbitrator decides whether or not to accept the appointment on the basis of his or her expertise, knowing that, depending on the quality of the service rendered, he or she could earn or lose reputation points;

6. the parties pay the fees and submit their positions and supporting evidence according to the specific Hub Rules set up by the Admin Hub;

7. the arbitrators make a tentative decision, i.e. a provisional draft of the arbitral award, which is peer-reviewed;

8. depending on the outcome of the peer review, the tentative decision will become a final arbitral award or the decision will be referred to a new arbitral tribunal. In any case, a final arbitration award will be issued;

9. the parties receive the hashed arbitral award on the blockchain so that they can double check its content.

All the technical aspects related to the peer review mechanism, as well as the conditions triggering the reassignment of the dispute to a second arbitral tribunal, are illustrated in the Appendix dedicated to the Court Layer, which Jur will periodically update with the results of the tests conducted.

Jur decides which parts of the flow should be recorded on-chain and which should be recorded off-chain, pursuing the goals of speed, streamlining and efficiency of the procedure. Jur can hash data to avoid storing too much data on the distributed ledger keeping the original data off-chain.

4.1.3. Corruption resistant governance of the Arbitration Hub

Jur has integrated a decentralized meritocratic governance mechanism. Jur has created economic incentives to motivate Hub Admins to strive for excellent results. Jur's rules ensure that the quality of the service determines the economic results for the Hub, without, however, affecting the freedom of each arbitrator to decide.

For this reason, unlike traditional arbitration chamber managers, the Hub Admin must keep a defined minimum number of JUR Tokens available in reserve as a

Performance Bond, to ensure the Arbitration Hub can operate. This amount is set in relation to the maximum value of the dispute accepted by the Arbitration Hub and is necessary for two reasons:

1. to avoid corruption by the arbitrator by providing an incentive to the party to report an attempt at bribery in the form of payment from the Performance Bond to any party that initiates a corruption complaint that is found to be valid;

2. negative peer reviews result in a reallocation of the case to other arbitrators, and the costs of making a new decision are covered by the Performance Bond. The more negative peer reviews are, the more the Performance Bond decreases and with it the limit in value of the disputes that the Arbitration Hub can accept.

Furthermore, to guarantee maximum transparency and impartiality, the Hub Admin cannot unilaterally remove an arbitrator but can choose the minimum level of reputation required for arbitrators to remain eligible.

The required Performance Bond amount is set in proportion to the maximum accepted value of Hub's disputes. If the Arbitration Hub gains credibility and the Hub Admin wants to expand, they can accept disputes of greater value than previously established by increasing the amount of the Performance Bond.

In case of whistleblowing or the denunciation of an attempt to bribe the arbitrator, a dispute will be opened on another Hub associated with the Hub in question, and in case of victory the plaintiff party will be assigned the entire Performance Bond sum staked by the Hub Admin. The corrupt arbitrator will be replaced and a new arbitrator will be in charge to issue the decision to settle the dispute.

In this way, Jur creates strict conditions to minimize corruption. Jur is not claiming that its system is perfect, but believes that it is a significant step forward compared to the weak, if not non-existent, mechanisms for traditional arbitral chambers and arbitral institutions. Furthermore, Jur is committed to improving software and procedures based on what will emerge from the concrete user experience.

The corrupt arbitrator can also be prosecuted for civil and criminal offenses and will be reported to authorities by the Hub Admin. Our model gives the Hub Admins a

strong motivation for responsible management of the Arbitration Hub, so that they will be keenly interested in ensuring that every arbitrator their Hub is truly qualified, impartial, and a fair decision-maker.

In other words, the economic risk arising from the management of the Hubs is exclusively attributed to the Hub Admins, who are responsible for the aggregation of the arbitrators within the Arbitration Hub. As far as the arbitrators are concerned, Jur does not aim to subvert the current logic of economic remuneration. In this way, the impartiality of the arbitrator is not threatened, thus ensuring that the decisions of the Court Layer system are legally binding.

4.1.4. Randomized appointment of arbitrators in the Court Layer

One of the key features of the Court Layer is the truly randomized appointment of arbitrators. What does "truly randomized" mean and how is that achieved? There are several requirements to keep in mind that such a selection should meet:

- it should be fair for everyone, no arbitrator should be chosen because of any factor related to either of the counterparties;
- it should be transparent, both counterparties should know which procedure has been used to select the arbitrator;
- it should be verifiable, so that both counterparties can check that the selected arbitrators are the ones supposed to be according to the known procedure and that nothing happened in the middle;
- it should not be corruptible, in the sense that it should not be possible for any of the counterparties to influence or change the appointment of an arbitrator that was truly randomly selected.

Such criteria are not simple to be met and the most difficult one to achieve is the verifiability. For the Court Layer, Jur decided to introduce a random number generation algorithm based on blockchain's blocks together with the counterparties contract's details.

The procedure works as follows:

1. either of the counterparties opens a dispute on the Court Layer;
2. after this event happens and gets registered on the blockchain, the hash of the contract between the parties and the hash of the next generated block on the blockchain are merged together. This is done in order to prevent a miner

from discarding blocks that do not generate hashes which could allow the selection of certain favorable arbitrators for either of the counterparties;

3. this newly formed hash will be then used with a modulo operator together with the public available number of arbitrators in order to get a number between 0 and the number of arbitrators minus one;

4. this number represents the arbitrator selected for this particular dispute.

In case of an arbitration panel the procedure is a bit more complex since it has to check if an arbitrator has been already selected and in that case the process repeats itself but the overall logic is the same.

4.2. The Open Layer: introducing decentralized dispute resolution

While the Court Layer represents an evolution of traditional commercial arbitration, designed to resolve large disputes, the Open Layer represents a completely new approach, aimed mainly at covering small disputes that today can neither be resolved quickly nor affordably. In a nutshell, the Open Layer is an ODR mechanism, based on the blockchain technology and decentralization of judgment.

Why does Jur believe that the Open Layer can change the legal market?

1. Because decentralizing the act of assessing who is right and who is wrong allows very high level of impartiality, very fast procedures and potentially zero the costs for accessing justice on a global scale.

2. Because such an ODR is designed according to game theory principles to motivate those who vote for the outcome of the dispute to vote fairly and early.

3. Because even though many ODRs already exist, their scope is limited to the relationships between the company that sets up that particular ODR and consumers who buy products and/or services from that same company. So most low-value disputes are not covered by any ODRs. For instance, solutions created by companies like Paypal or Ebay, independently from their centralization and effectiveness, works only for those platforms which do not cover the worldwide demand for small and micro deals.

4. The costs of maintaining a private ODR are high for companies, which may appreciate the opportunity to outsource this service, while benefiting from a more versatile solution.

The Open Layer is suitable for the following uses:

1. It is the first ODR to integrate versatile Smart Legal Contract creation, so anyone can create a contract on Jur and attach it to the Open Layer - ideal for small, simple transactions;

2. It can be used for off-chain contracts as long as the digital platform has an escrow system so that the decision can be immediately enforced;

3. It can also be used with third parties' smart contracts (with costs borne by such third parties and paid into JUR Tokens);

4. Although the system is designed with small value disputes in mind (up to 500 USD) nothing prevents the parties from using it for medium or high value disputes such as simple peer to peer cryptocurrency exchanges.

4.2.1. Illustration of the Open Layer

The Open Layer (patent pending) uses a system of economic incentives based on game theory to motivate voters to choose between two options and give weight to their vote by staking tokens, expressing the stake-weighted wisdom of the crowd in the form of a simple binary decision - Proposal A, or Proposal B? The result is determined by the amount of JUR staked on each proposal rather than a per capita vote. This innovative approach does not qualify as a legal judgment, but it is fair, fast, free and if you attach it to a Jur Smart Legal Contract with an escrow, the judgment is executed as soon as it is made (as little as 24 hours) so there is no need to pursue payment in court.

The parties must each propose a resolution to the dispute. Rational actors will make proposals that they believe will be seen as the most fair of the two choices. Note that a rational party will not necessarily propose what they think is fair. They may propose an option designed to unfairly favor their interests, as long as it is less unfair than the counterparties proposal. For instance, if Bob thinks splitting the escrow 50/50 between Bob and Alice is fair, but he thinks Alice will propose 10/90, Bob might propose 80/20.

The Open Layer rewards the ability of the parties to make fair self-assessment and request a reasonable sum, because unreasonable proposals are unlikely to win. This is exactly the opposite of what happens in judgments before national courts, where the parties usually ask for the maximum possible amount, in a positional bargaining strategy (haggling), because they are aware of the fact that the judge has broad

discretionary powers and can opt for an allocation of sums different from those proposed by the parties. This may seem like an advantage, but it ends up making the verdict of the judgments highly uncertain and unpredictable. Within the Open Layer the decision-maker cannot depart from the solutions defined by the parties in their proposals, therefore the risk of an alternative and unpredictable outcome is completely eliminated.

The rules of the system motivate voters to participate by offering rewards to some of the voters who choose the proposal that has a majority when voting ends. Only voters who stake tokens early enough to be instrumental in creating and maintaining the majority are rewarded, providing an incentive to vote early. The rewards come at the expense of voters who choose the proposal that gets fewer votes, discouraging voters from choosing the proposition that ultimately gets a minority of the votes. Essentially, when a user stakes a token to vote, they are creating a fund to guarantee their good faith effort to analyze the dispute. If they vote for the position that is viewed as less fair, they forfeit their token, which is used to reward a more diligent voter.

Thus the system creates incentives to identify and support the proposal that the majority will view as fair, vote by staking tokens, and do so early, while remembering to avoid voting if you are uncertain of your judgment. It is open to all who can purchase JUR, but to some degree, voters will self-select for competence. Eventually, an unsuccessful voter will give up or run out of tokens. The fact that a minority of Jur voters at any time will probably be incompetent voters that have not yet self-selected and decided to abstain does not appear to constitute a problem. Competent voters will welcome the tokens of any incompetent voters while they last.

How does an Open Layer dispute start?

Parties to contracts can choose to attach their contract to the Open Layer in case of a dispute and set their own time limit, with 24 hours established as the default. For instance, Alice makes a freelancer contract with Bob to deliver four "interesting" articles for 200 USD in stablecoin and funds an escrow. The parties to a contract can

agree to execute it as written and move the escrowed funds accordingly. If there is a disagreement about this, they can open a dispute. For example, Alice claims that two of the agreed articles are not interesting and therefore asks for a price reduction, for a final amount of 120 USD. Bob says he will not take less than 180 USD.

Alice wants 80 USD of the 200 USD back, so she decides to initiate a dispute. She highlights parts of the article that put her to sleep and posts her proposal asking that 120 USD be paid to Bob and 80 USD refunded to her.

Then, Alice must stake tokens to create a vote in favor of her proposal that must be at least 1% of the contract value since she is the party that wants to start the dispute

Alice votes an obligatory 2 USD worth of JUR Tokens.

The other party then loads a counterproposal with supporting materials and the dispute is opened to voters. The second party can choose to vote or abstain.

Bob proposes that he should be paid 180 USD and Alice should only be refunded 20 USD. Bob says he did a good job writing interesting articles and points out examples of what he did to make the topic of "dog grooming basics" more fascinating. Bob votes 2 USD worth of JUR Tokens for his own proposal, if he desired he could have voted even more.

When the voting concludes, voted tokens are forfeit, refunded, and matched with rewards as appropriate and the escrow is paid out according to the instructions in the majority proposition.

The reward tokens are matched to majority-side votes in the chronological order they were received, providing a reward for each token up to the point where a lasting majority is established. Subsequent majority-side votes do not impact the outcome and do not earn a reward. For instance, if Bob's proposal has 200.1 votes and Alice's proposal has 100 when voting ends, the owners of the first 100.1 tokens voted in favor of Bob will be rewarded with the 100 tokens voted for Alice. The owners of the

next 100 tokens voted for Bob will only get a refund of their tokens with no matching reward. This provides an incentive to vote early.

The escrow is paid out in accordance with Bob's proposition, and he gets 180 USD while 20 USD is refunded to Alice.

This Service is almost free of charge for the parties to the dispute, apart from the 1% fee that the claimant has to pay in order to create the initial incentive for voting. Voters will be compensated in JUR Tokens thanks to the aforementioned reward mechanism.

Anti Corruption Measures

The Open Layer has several rules designed so that attempts to achieve a corrupt outcome are very unlikely to succeed and rational voters can see that would-be cheaters are much more likely to suffer than prosper. For instance, to prevent a last-minute attack on the majority, if an unusually high number of votes are received in the final hour, voting is extended automatically until volume subsides. To prevent a wealthy actor - a "whale" - from simply buying justice with an unscalable wall of votes, the Open Layer only permits users to stake votes in favor of a proposition up to the point where it has a 100% lead. Hence if Bob's proposal has 100 and Alice's proposal has 199, only one more vote can be cast for Alice until Bob receives more votes.

Furthermore, any would be whale attacker who does not own more than 50% of JUR tokens could be out-voted, and anyone who owns over 50% of JUR tokens has an interest in preventing, not perpetrating attacks, in order to maintain the value of their tokens. Even if someone does try a "whale attack" on the system, the Open Layer will recognize this attempt and will automatically refer the dispute to the Court Layer once it reaches a certain threshold of tokens staked, by means of what Jur calls the "Safety Clause" of the Open Layer.

Final remarks

The Open Layer is designed to issue decisions within 24 hours, it is suitable for microtransactions and small claims up to 500 USD.

Currently, there is no effective method for resolving disputes over small sums. The best response to being cheated in a small deal is usually to shrug and walk away. While each minor miscarriage of justice that happens today is small, in the aggregate it is a huge problem, creating friction and inefficiency that stifles productivity and cooperation. And for the individual involved, whether small or large, injustice still remains an injustice.

Jur offers a globally available, easily accessible solution. Without blockchain technology and the tokenomic system of incentives, it would not work. Delivering clear answers for micro-claims in 24 hours, almost for free, can eliminate a multitude of instances of petty injustice and increase confidence for small transactions all over the world.

This product is under development and the Jur team is currently testing it. Further tests will be conducted with the help of some important university law schools. The proper functioning of the Open Layer implies that since day one there are voters. For this reason, Jur will provide that some of the most active testers of today become the initial base of voters of day one.

More details on how the product design is based on the transposition of the principles of game theory to direct voters towards non-collusive behaviour and to incentivize voting on the basis of individual conviction, also taking into account the risk of suffering a loss, are provided in a dedicated Appendix.

4.2.2. Open Layer key factsheet

Description	Jur is a decentralized oracle designed to provide a dispute resolution or select data for smart contracts and digital platforms.
Benefit	Obtain a dispute resolution at 0 cost.

Mechanism	Simplified. Party A and Party B each propose their own numerical solution to resolve dispute (eg. pay 70 of 100 USD in escrow to the seller, refund 30 USD to buyer vs pay 10 USD to seller and refund 90). The oracles are motivated to vote to earn rewards when they vote on the side of the majority, with specific rules to strive to guarantee fair outcomes and minimize the possibility of corruption. It works with a connected escrow sum on third-party platforms, third-party smart contract or Jur smart contracts.
Use cases	Resolution of low value disputes. The ruling can also be passed via API to the third platform or smart contract that will move the sums accordingly.
Legal validity	The system does not have the legal force of arbitration. The goal is not to achieve legally binding decisions, but rather to resolve issues concerning small sums that cannot be effectively resolved with any other system because the value is so low, payment of arbitrators is not possible. These kind of disputes are usually unresolved in the current system.

4.3. The Community Layer: community-based jurisdictions

The Community Layer combines the ability to limit participation in dispute resolution to authorized experts with the low cost of the Open Layer's stake-weighted incentive-based voting system.

The main features of this ODR are listed as follows:

1. The system is designed for disputes of medium complexity and value, and to issue decisions in an estimated minimum time of 24 hours to an estimated maximum of 1 week.

2. The disputes are decided by voters according to incentives and voting mechanisms that are largely the same as the Open Layer (the voting mechanism of both these ODRs is based on the same pending patent by Jur).

3. The vote is not open to everyone, but rather only to communities of selected voters.

4. Anyone who wants to start a community (the "Community Creator") can do so through the software and user-friendly interface provided by Jur or by interacting directly with the smart contracts.

5. Similar to what happens for the selection of arbitrators in the Court Layer, the Community Creator may centrally evaluate the applications of the voters.

Alternatively leave this evaluation to the decentralized channel of the Open Layer. In both cases, the requirements for becoming a voter must first be established by the Community Creator.[14]

6. The Community Creator may, at its discretion, require the payment of a fee by those who wish to use its community to resolve a dispute. This feature is available because Open and Community Layer votes are zero sum games. In the Open Layer, one can reasonably hope for a long lasting supply of losing voters. In a closed Community, this may not be sustainable without a fee to add potential revenue for voters and create a positive sum game where the average of all results is a win.

7. All the characteristics listed so far converge towards the objective of providing groups of voters with greater skills than those voting in the Open Layer, as a reflection of the greater complexity of the matters to be dealt with.

4.3.1. Decentralized voting with a different target

The Open Layer solves disputes leveraging an application of game theory, which ensures a constant selection of voters thanks to a reward mechanism that encourages voters who are skilled in the disputed matters to vote fairly and early and discourages not so skilled voters from taking part in the decision or from gambling. However, this may not be enough for those users of Jur concerned about the following points:

1. the need for confidence in the initial phase of usage of the mechanisms;
2. the need for more expertise in more complex disputes;
3. the risk that a crowd driven by economic incentives could fail in the event of disputes characterized by many subjective elements and few objectively assessable elements.

The structure of the Community Layer, and the reflections of this structure on the voting mechanism, seek to meet these needs.

The Community Creator sets up some parameters such as:

1. Maximum and minimum number of voters;
2. Maximum and minimum number of JUR tokens allowed/required in a voter's wallet

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[14] The Community Creator establishes objective criteria for the applicants. The question of whether to admit each applicant will be presented to the Open Layer where voters will vote yes or no based on whether the candidate meets the established requirements. Once the maximum number of applicants has been reached, a voting whitelist for pending applications will be created.

3. Maximum ratio between the value of the dispute and the value of the tokens hold within the community.

Each Community Member must stake a number of tokens between a minimum and a maximum amount, and only that amount will constitute a wallet with voting rights. Practically, if there is a Community with 30 voters having 10.000 JUR tokens each one, 30.000 votes will be possible within the Community. Hence, anyone willing to corrupt the system should pay at least 150.000,1 JUR Tokens to bring a number of votes to his side that would manipulate the outcome of the decision.

Voters who contribute to the formation of a majority in favour of one of the two proposals in due time are rewarded through the allocation of JUR Tokens staked by voters, but in consideration of their expertise they could also get an extra reward. This reward could be the result of the allocation of the JUR Tokens that the parties have paid as fees for the use of the Community, provided that the Community Creator has requested the payment of a fee for this Community. These fees can be flat fees or proportionate to the value of the disputes. The Community Creator may allocate all or part of the fees as rewards to the voters, or not share them at all. Thus, Jur offers Community Creators complete freedom regarding fees policies.

At the end of the day, it is up to the Community Creator to maintain the Community attractive to both users (i.e. the parties to the dispute) and voters. If voters quit the Community or are excluded from the Community because they do not hold an adequate number of JUR Tokens and, as a result, the number of voters falls below the minimum established by the Community Creator, the Community becomes dormant and will not be selectable until it meets again its minimum requirements.

This layer is ideal for disputes between 500 and 5000 USD, which normally cannot rely on fast and inexpensive solutions. The Community Layer can also be used for bigger disputes, for example, with a value of 50000 USD. The range of use cases is wide and includes any case of anyone who has a contract with another party, as well as any other issues of governance or of a digital platform where someone needs an impartial third party to judge quickly and effectively.

Further details on Community Layer will be published in a specific Appendix after the tests of the Open Layer.

4.3.2 Community Layer key factsheet

Selection of voters	Centralized selection by the Community Creator or decentralized selection with an open vote on the applications received, given the objective parameters established by the Community Creator
Settings	- Minimum and maximum number of voters accepted within the Community - Minimum and maximum quantity of required JUR Tokens blocked in wallet per voter - Ratio between accepted maximum disputed value and total value in the wallets of the selected voters - Selected voters can vote only from the whitelisted wallet
Active/Inactive community	In the event of failure to comply with the minimum number of voters or JUR Tokens the community becomes inactive
Benefits	This system ensures incorruptible decisions, even for high value deals. By only allowing experts to vote, this system provides reliable voters for matters of medium complexity.
Difference between Arbitration Hubs and Community Layer's communities	Everyone admitted to the community can vote with the mechanism explained throughout paragraph 4.3. There is no proper arbitrator, decentralized peer review, reputation system, or guarantee fund.

5. Additional information about Jur's ecosystem

The Jur ecosystem is a peculiar combination of innovative legal tech services, optimization of existing flows (creation of contracts, real commercial arbitrations), wide adoption of blockchain technology and, consequently, the central role of JUR Token which is the fuel of the entire ecosystem.

The previous paragraphs offered an overview of the services offered by Jur, while this chapter will be entirely dedicated to other elements on which the ecosystem is based, as well as to other strategic choices and initiatives undertaken by Jur.

5.1. Internet of jurisdictions: lex mercatoria on the blockchain

Lex mercatoria literally means "merchant law" in the Latin language. The term refers to the international concept of laws regarding national and transnational trade that evolved over time throughout Europe.

Jur will provide a sort of modern version of lex mercatoria with a more internationalized vision. Unlike the traditional lex mercatoria, which is constructed like a multiform set of rules, originating from sources of different types and nature, struggling to reach some sort of uniformity and coherence, Jur offers the opportunity of a proliferation of options, each one potentially endowed with its own self-sufficiency, consistency and coherence.

This can be achieved through the Arbitration Hubs on the Court Layer: the communities of participants that will form around each Arbitration Hub can set up their own rules for interpreting contracts, a list of best practices, as well as a handbooks of cases of disputes that actually occurred (clearly anonymized and/or authorized by the parties to the dispute itself) which could serve as guides for economic players to predict the outcome of a dispute or even prevent it.

One of the main problems with commercial arbitration is the lack of consistency in the decision-making process, even within the same arbitration chamber. This problem is attributed to the fact that it is impossible to develop real case law/jurisprudence within the arbitration chambers, in contrast to national courts. This in turn is caused by the high level of confidentiality that the parties to the dispute usually require from the arbitration chambers.

In our view, this issue has never really been addressed. Jur provides that the Hub Admins can view the arbitral awards and thus can draw maxims from them, so as to create a framework of rules or at least a collection of maxims. The infrastructure of Jur allows Hub Admins to upload such content making it viewable to anyone.

The parties to a dispute have an interest in benefiting from a dispute resolution mechanism that is more readable and predictable in terms of the substantive law applied. The Arbitration Hubs have an interest in making themselves attractive to economic players who may need to initiate a dispute. Providing an infrastructure can be the first step in motivating the Arbitration Hubs to seek a balance between confidentiality and jurisprudence development.

Establishing digitized arbitration chambers, with support for a written and easily accessible set of guidelines for jurisprudence means opening up to the development of jurisdictions parallel to local justice and equipped with a lex mercatoria derived from real case law.

Parties can choose the jurisdiction that serves them best among the many options available for their contracts. Effective communities will flourish and ineffective ones will wither away in response to market needs.

While Jur expects Hub Admins to voluntarily contribute to a growing and diverse ecosystem of competing versions of lex mercatoria, to be clear, Hub Admins will not be in any way obligated to provide materials for the construction of a predictable lex mercatoria. This is an additional opportunity that the Hub Admins can take to enhance and make their Arbitration Hubs more attractive.

5.2. Nature and uses of the JUR Token

JUR Token, according to our FINMA non-action letter, is a hybrid token that has both utility token characteristics and payment token characteristics. The JUR Token is the token on which the ecosystem is based. However, users can use fiat currencies and stablecoins for payment. When they do so, a conversion in JUR Tokens occurs, except in the case of stablecoin escrow deposits. Such a conversion is automatic and "invisible" to the user, thanks to a user-friendly interface.

Parties to a contractual relationship and/or to a dispute, voters, and any other kind of participants to Jur ecosystem need JUR tokens for:

- interact with the Open Layer, the Community Layer, and the Court Layer;
- purchasing Smart Legal Contracts templates (both purchase fees paid to creators and commissions on revenue paid by creators to Jur);
- paying fees for creation of Jur native contract escrows in stablecoin;
- depositing escrows;
- voting for resolving disputes in both the Open and Community Layer;
- depositing the Performance Bond for the purpose of initiating an Arbitration Hub;
- depositing required funds in Hub wallets to qualify as a Community voter or arbitrator
- peer reviewing provisional drafts of arbitral awards rendered by one Arbitration Hub, where individual arbitrators from another hub are randomly selected to vote as peer reviewers.

5.2.1. Token velocity

Token velocity will be relatively slow for the following reasons:

- in the Open Layer, tokens are locked from the time they are voted until the end of the dispute which can last from 24 hours to several days;
- within the Community Layer, members must constantly maintain an available balance of JUR in designated wallets to ensure liquidity for voting;
- Arbitration Hubs also require members to hold tokens for the long term for the purpose of peer reviewing, and Hub Admins are required to hold a large number of tokens in guarantee funds, that constitute Performance Bonds for the Hubs;

- the Hub Admins can only profit from their Hubs if they meet the token holding requirement, and the amount of tokens held in the guarantee fund determines the maximum value of disputes in the Hub.

These factors may contribute to slow circulation and low token velocity.

5.2.2. Token sale and compliance: FINMA's non-action letter and compliance partners

JUR Token's sale plan is fully compliant with Swiss Guidelines on ICO and Anti-Money Laundering Regulations.

Jur obtained a full non-action letter from FINMA which confirms that JUR Token is considered a hybrid utility and payment token. This will be concretely achieved through the support of well-renowned outsourcers and consultants as follows:

- Lexpert Partners AG will act as an external independent Compliance Officer and Money Laundering Reporting Officer and will perform the compliance check including PEP and Wallet Risk;
- Intrum (with IDNow) will offer the real-time video-identification service according to the FINMA Circular 2016/7 (Know-Your-Customer compliance);
- Tokengate will manage automated KYC and AML and write the token generation smart contract.

Jur is Member of VQF SRO, the leading, largest, officially recognised self-regulatory organisation pursuant to the Swiss Federal Act of 10 October 1997 on the combating of money laundering and the prevention of the financing of terrorism in the financial sector.

Jur will practice maximum security measures to secure personal details of registered users. All the information stored on our platform will be encrypted, safeguarding their personal information against any hacking attacks or information leaks. Jur uses Tokengate as platform for managing KYC and AML flow efficiently and effectively with TGE smart contracts.

Jur will evaluate which exchange to choose at the time of the token generation event.

5.2.3. Utility token and some key differentiation elements

To better understand the modernization introduced by Jur, it is important to understand the innovative role played by the blockchain technology in the digital world. Currently, there is still a great deal of confusion between the concepts of Initial Coin Offering, Security Token Offering, and the use of blockchain technology for product, services and assets managed by central entities, therefore Jur can classify three real use-cases.

1. Centralized companies can use blockchain technology to provide transparency and trust to data when managing their sales of goods or services using a smart contract instead of a traditional off-chain contract.

2. Blockchain can be used to manage public offerings of government and private equity through a tokenization of assets or revenue shares through the so-called Security Token Offers (STOs). Companies will find it easier to use STOs to raise capital and make investments that, unlike other forms of crowdfunding, are cheaper, faster and have fewer restrictions than IPOs.

3. Blockchain can also be used to create decentralized ecosystems in which a token is issued in order to fund and assist the development of an ecosystem and that can be later used to purchase goods or being an integral part of a service itself, benefiting from the advantages of a decentralized structure, eliminating or reducing the presence of a central intermediary body, thus allowing the value shift from the center to the ends.

The latter use case is in our opinion the most interesting one. Jur's vision corresponds with this model where the blockchain is used to create a truly decentralized self-sustaining ecosystem. Jur strongly believes that the future of the internet lies in services powered by utility tokens, improving existing services with new paradigms that cannot be achieved in the absence of a distributed ledger.

The years 2017 and 2018 saw the diffusion of many underdeveloped ICOs, projects that lacked a clear model of token sustainability or control mechanisms aimed at ensuring the realization of the project. Having grown only on the hype of rising prices, at this stage most projects do not offer utility or added value and are therefore destined to fail in the medium term. This also means the market is entering a more mature phase in which new projects responsibly address such issues such as sustainability, token velocity, and reliable execution.

5.3. Business model

Jur believes that a decentralized economy must provide mechanisms for sustaining the entity that supports and maintains the smart legal contract editor and the dispute resolution systems for the new economy.

Jur's choice was to adopt a flexible mechanism, which can be expanded or reduced according to the needs of the project and feedback from the community.

Jur therefore anticipates the use of fees and reserves the right to reduce them to zero or increase them on the basis of the progress of the project and the value of the JUR Token.

The following fees payable to Jur apply at the moment:

- fee for creating Arbitration Hubs
- fee for submission of disputes to the Arbitration Hub
- fee for using stablecoin for escrow
- subscription fee for high platform usage
- commission fee on sales of Smart Legal Contract templates

Jur transactions will also generate very small gas fees payable to processing nodes.

The goal is to try to reduce the fees to a minimum, in order to obtain a pure decentralized system in which the Jur team does not need to collect any kind of fee.

5.4. Organization and governance model

Jur is administered by Jur AG, a Swiss company based in Baar, Zug with 100,000 CHF registered capital. The company is subject to the control of VQF SRO for anti-money laundering purposes.

Jur has tried to balance two basic needs - ensuring effective and agile development while allowing democratic participation. Hence, Jur relies on a corporate legal structure rather than a foundation because foundations have complex management restrictions and are less agile.

Moreover, Jur is focused on ensuring widespread adoption of the ecosystem fueled by the JUR Token. Therefore any kind of partnership or promoted agreement will involve the use of the JUR Token. Many ICOs have actually promoted or carried out activities without taking into account the use of the token with disastrous consequences that have been reflected in the value of the token itself.

Obviously, there are some possible hypothetical exceptions to this general rule that Jur addresses in advance, namely activities to be carried out without involving the JUR Token, for example, where Jur requires advice or services from an institution that cannot accept payments in cryptocurrencies;

This example serves to reaffirm that Jur leadership is focused on the ecosystem and the JUR Token, but that strategic or cash needs may require us to make transactions with other means of exchange sometimes.

5.6. Partnerships, institutional strategy, and development strategy

This section summarizes Jur's partnerships and strategies.

Jur's staff in charge of communications activities will promptly provide all the details on the evolution of strategies and institutional and commercial partnerships undertaken by Jur.

5.6.1. Jur Hatch Program Member of Digital Ocean

Jur was selected to be part of the Hatch family of Digital Ocean. In addition to providing a cloud server and storage infrastructure to Jur for free, membership in the program will provide access to an internationally renowned startup community. Being accepted into Hatch is a recognition that Jur is a vital part of a major business movement that is establishing itself globally in the field of blockchain and in the legal industry. Jur chose Digital Ocean from among many possible partners because Jur espouses the same philosophy and modus operandi, which translates into great attention to combine quality and usability in the most appropriate way so that as

many users as possible can benefit from the solutions developed and the services offered.

5.6.2. Other commercial and institutional partnerships

In the second half of 2018, Jur conducted an investigation to verify how much blockchain projects are aware of the need for dispute resolution blockchain-based mechanisms. This resulted in entering nine partnerships.

This suggests that there is already interest in external dispute resolution for blockchain projects.

In 2019 Jur is continuing the search for partnerships to establish itself as the smart legal contract editor and the go-to dispute resolution system for the Blockchain Industry.

In addition, Jur is actively seeking partnerships with institutions (e.g. legal entities interested in establishing Arbitration Hubs), governments and large companies to offer our infrastructure for Smart Legal Contract and dispute resolution systems.

5.6.3 Jur Community

Jur's ecosystem offers opportunities to a wide range of experts at the intersection of legal and tech. Many professionals from these fields have already joined Jur's cause to help it foster the evolution of a new judiciary system. Many more will join, thanks to all the online and on ground activities that the Jur team and the supporters pursue on a daily basis. CEO Alessandro Palombo and CLO Raffaele Battaglini are authorities in the field, whose personality and trustworthiness are well recognized. They both serve on the San Marino Innovation Board, helping to guide the foward-thinking nation's blockchain legal policies. In the Core Team, Jur has some of the most influential blockchain architects, such as Adam Dossa.

To extend the echoes of Jur's actions, Jur has nurtured a community with specific efforts such as the public Telegram channel 'Jur Official Community' and the 'Jur Alliance' , with a combined total membership of more than 10,000 people. Jur is well

aware that an important part of its success lies with its followers and sustainers. For that reason, a growing number of initiatives will be activated in the next months to ensure a direct contact with Jur's audience, with the objective of gathering a ever-expanding number of people who are interested in the evolution of them legal tech field. Jur is building a mass audience to use the Jur Editor and attach Jur dispute resolution as a replacement for current ADRs.

6. Competitive scenario

There are several dispute resolution systems in various early stages of development that are decentralized and offer some solutions, but very few of them offer fully legally binding decisions.

The Jur ecosystem is designed to facilitate contractual relationships from the creation and signing of contracts through the Jur Editor and the Jur Marketplace, to the resolution of any disputes arising from contracts through a multi-layer dispute resolution system. These layers include fully legally binding decisions in the form of digitized commercial arbitration alongside less binding but useful ODR mechanisms to quickly and economically obtain decisions with regard to low and medium value disputes.

Jur's potential competitors offer solutions that seem incomplete: some solutions lack a tool that allows the creation, in a user-friendly way, of Smart Legal Contracts, i.e. smart contracts in code language connected to traditional legal agreements in natural language, hence the phase of creating contracts seems to be incomplete. Other solutions are solely focused on offering dispute resolution for smart contracts, but do not provide any tools to get legally binding decisions, hence again the dispute settlement phase seems to be incomplete.

Economic activities governed by smart contracts and blockchain projects need a solid bridge between the blockchain and the real world of government-run legal systems, so that the creation of contracts and the resolution of disputes can be effective and produce legally binding results.

Below Jur proposes a quick overview about its competitors based on what they published on their website or white papers.

- **Agrello:** Agrello is a player offering an interactive graphical interface that allows ordinary users to create legally binding smart contracts using natural legal language, which is later converted to a smart contract. Smart contracts handle payments and other actions automatically in accordance with the terms input by the involved parties. However, this system relies on traditional

courts to resolve any legal issues, which makes obtaining justice expensive and time-consuming.

- **Sagewise:** Sagewise offers a dispute resolution system in the form of an SDK protocol to be incorporated into the smart contract, acting as a third layer that operates as an arbitration clause in a traditional contract. In such a way it can anticipate problems that may arise later, for example relating to the quality of the code of the smart contract itself, and in general to all issues that require dispute resolution.

- **Oath Protocol:** Oath provides smart contracts with an integrated dispute resolution mechanism that is modeled on the common-law jury system and is referred to as "Smart Arbitration." However, the choice of terminology is misleading, because it is not a digitized version of arbitration strictu sensu, it is instead a mechanism in which the dispute is referred to a jury, whose members are part of one single community and the admission is approved by the Oath Community itself. A random selection mechanism based on algorithms assigns a team of jurors to the dispute opened on Oath. The whole system is designed to be easily integrated into DApps. The dispute resolution system provided by Oath is very different from any of the three systems provided by Jur, but it certainly has no true arbitration characteristics and does not seem to produce legally binding and enforceable decisions.

- **Mattereum:** Mattereum comes with a digital legal framework that aims to connect goods and services in the physical world with their digital counterpart through legally enforceable smart contracts. Their core operational structure involves a smart contract on the blockchain that is attached to an arbitration system that uses independent arbitrators that are not decentralized. Mattereum aims to offer a dispute resolution system for decentralized projects, but ironically, the dispute resolution system itself is not decentralized, re-introducing the risks associated with centralization.

- **Kleros:** this system implements a third-party dispute resolution system, which does not have formal legal standing but is powered by a community that has an economic incentive to choose the best outcome. Users can create smart contracts with external systems and use Kleros for their adjudication protocol. Also, Kleros has a different voting system which imposes costs for the parties to the dispute. Considering that Jur offers a multi-layer dispute resolution system that includes digitized commercial arbitration and can be used for both Smart Legal Contracts and native natural language contracts, Klero's system seems less versatile and not able to cover any disputes arising from any type of contract. Also it does not provide any legally binding decisions. But certainly Kleros offers a suitable solution for some smart contracts based on solid and innovative game theory application.

- **I-cash:** the system is focused on the validation of smart contracts through the progressive identification of oracles (or arbitrators) that validate their content. It is not clear whether this activity also takes place in the context of dispute resolution and Jur does not believe that this system can have legal validity thus providing a full substitute for ADR. Jur considers it a validator reward mechanism that can report a majority opinion.

- **OpenLaw:** this system is based on smart contracts regulating the sales process and incorporating a dispute resolution provision approved by the arbitration association JAMS. Once invoked, a traditional arbitration procedure managed by JAMS begins and identified digital assets are sent to a virtual escrow account. The dispute resolution procedure can be accessed via a basic user interface. This system lacks any fully decentralized layer of dispute resolution and the arbitration process is outsourced to one single for-profit organization. The OpenLaw ecosystem offers a database of legal agreements in natural language. These agreements can be edited, stored, and shared on the database by users, and then be connected to smart contract on the blockchain of Ethereum. There is no marketplace for agreements connected to smart contracts and hence deployed on the blockchain after their creation.

In light of the above, Jur seems to be the only system designed with options that are optimized to serve disputes over small, medium and large transactions, the only system with a marketplace for Smart Legal Contracts, the only system that offers both a free dispute resolution option and a legally binding dispute resolution option.

Jur is the only system which offers up to three dispute resolution mechanisms, including two fully decentralized ODR mechanisms and one mechanism designed as a digitized version of traditional arbitration which implements features based on decentralization to reduce costs, offers greater impartiality of arbitrators, and renders legally binding decisions that are enforceable in 150 countries.

7. Legal disclaimers and risk mitigation

This Section illustrates disclaimers and risks concerning the purchase of JUR Tokens.

DISCLAIMERS

Lack of operating history of the Jur AG

Jur AG is a newly formed entity and has little operating history or track record that could be used (on its own) to evaluate its ability to deliver the Jur platform.

No offer of securities or registration

The whitepaper does not constitute a Prospectus or offer document of any sort and is not intended to constitute an offer of securities or a solicitation for investment in securities in any jurisdiction. No person is bound to enter into any contract or binding legal commitment and no cryptocurrency or other forms of payment are to be accepted on the basis of the white paper.

Incomplete information regarding the Jur platform

You will not have full access to all of the information relevant to Jur AG and the Jur platform. Jur AG is not required to update you on the progress of the Jur platform.

Changes to the Jur Platform

Various features of the Jur Platform, including its terms and conditions, fees, structure, purpose, consensus protocol, algorithm, source codes, infrastructure design and other technical specifications and parameters, may be updated and changed from time to time without notice.

Further, the Jur platform may encounter difficulties during development, including financial, resourcing and technical difficulties. These difficulties are unpredictable,

and may be unresolvable and may compromise the overall development of the JUR Tokens and the Jur platform. Development of the Jur platform may therefore fail, terminate or be delayed at any time for any reason. Particular features of the Jur platform may never be realized. Such failure, termination or delay is likely to reduce and may completely obliterate any existing utility that JUR Tokens may hold.

Also, due to the complex nature of the underlying blockchain project and its future evolvement, Jur AG might at its sole discretion not issue the JUR Token or change the structure of the JUR Token for any reason at any time.

Potential for misuse of the Jur platform

Services which may be banned, restricted in certain jurisdictions may potentially use the Jur platform. As a result, governmental authorities or regulators may take action against the Jur platform. This may deter users from using the Jur platform or may involve the complete shutdown of the Jur platform.

Possible migration of the JUR Tokens

The JUR Tokens are being created as ERC20 tokens. Jur AG reserves the right to migrate the ERC-20 based JUR Token to another protocol, such as a native blockchain, and to generate replacement Tokens on the new protocol in the future, should Jur AG determine, in its sole discretion, that doing so is necessary or useful to the operation of the Jur platform. Should Jur AG decide to migrate the JUR Tokens, Jur may no longer provide support for the pre-existing tokens or any other operational matters, except with respect to the migration process.

No assets or property underlying JUR Tokens

JUR Tokens confer no ownership interest in any assets or property. Nothing underpins the value of JUR Tokens other than the prospect of the Jur platform access, usage and functionality.

No governance rights attaching to JUR Tokens

Tokens confers no governance rights of any kind with respect to the Jur platform or Jur AG Accordingly, subject to other written arrangements to the contrary, all decisions involving the Jur platform will be made by Jur AG, including decisions to

discontinue the Jur platform. These decisions could adversely affect the Jur platform and the utility of any JUR Tokens that you hold.

No securities

JUR Token are not to be construed, interpreted, classified or treated as debentures, stocks or shares issued by any person or entity, rights, options or derivatives in respect of such debentures, stocks or shares, rights under a contract for differences or under any other contract the purpose or pretended purpose of which is to secure a profit or avoid a loss, units in a collective investment scheme, structured products, units in a business trust, derivatives of units in a business trust.

Further token sales and development and sale of additional tokens

Jur AG may, from time to time, and without prior notice or consultation, sell additional JUR Tokens. Further, Jur AG may develop or otherwise raise funding for the Jur platform through any other means it deems necessary. You will not necessarily receive notice of the sale of additional Tokens or of any other tokens or fundraising means.

Volatility of cryptocurrencies, other digital assets and fiat currencies

Jur AG may hold the proceeds in cryptocurrencies, other digital assets or fiat currencies, or a combination of any of them. The value of these fiat currencies and digital assets may fluctuate significantly over a short period of time as a result of market dynamics, regulatory actions and changes, technical advancements, exchange availability and broader economic and political factors. This volatility is likely to impact the funding that is available for developing the Jur platform and may affect the utility of the JUR Tokens.

Legal status of JUR Token and Jur platform is untested

The laws of various jurisdictions may apply to JUR Tokens and the Jur platform. The application of these laws and regulations to JUR Tokens and the Jur platform is, in many cases, largely untested, and is subject to change without notice. In particular, any current governmental or regulatory tolerance of cryptographic tokens or

cryptocurrencies can change rapidly, and JUR Tokens may at any time be deemed to be a security, investment, asset or money by governmental authorities or regulators.

Jur AG may receive formal or informal queries, notices, requests or warnings by governmental authorities and regulators. Action may be taken by governmental authorities and regulators against Jur AG or the Jur platform. As a result of such events, Jur AG may be required to discontinue the JUR Token Sale and/or the Jur platform or provide any other such information related to the same.

Tax treatment and accounting

Jur AG, Purchaser and transactions in relation to the JUR Tokens and/or the Jur platform may be subject to the Tax laws and regulations in any applicable jurisdictions. The Tax treatment and accounting of transactions in relation to the JUR Tokens and/or the Jur platform are uncertain and a largely untested area of law and practice that is subject to prospective and retroactive changes without notice. Tax treatment of cryptographic tokens and cryptocurrencies may vary amongst jurisdictions.

Purchasing JUR Tokens or the use of the Jur platform as a result of or in connection with any purchase, grant, delivery, exercise, vesting, distribution, activation, holding, use, appreciation, conversion, sale, exchange, redemption, assignment, transfer, disposal, may attract certain tax implications either now or in the future.

Jur AG may receive formal or informal queries, notices, requests, or summons from tax authorities and as a result Jur AG may be required to furnish certain information about the JUR Token sale and/or the Jur platform. You must seek independent professional advice on the tax implications in relation to the JUR Token sale, use of the Jur platform and/or any other transactions for your particular situation.

Reliance on the Internet

JUR Tokens and the Jur platform rely heavily on the internet. However, the public nature of the internet means that either parts of the internet or the entire internet may be unreliable or unavailable at any given time. Further, interruption, delay,

corruption or loss of data, or the loss of confidentiality in the transmission of data, may occur when transmitting data via the internet.

Reliance on Blockchain Platform

JUR Tokens and the Jur platform rely on a third party blockchain platform. Such a blockchain platform may be open source software that is built upon experimental technology, namely blockchain. Risks arising from this reliance include (but are not limited to):

A. the existence of technical flaws in such a blockchain platform;
B. targeting of such a blockchain platform by malicious persons;
C. changes in such a blockchain platform's consensus protocol or algorithms;
D. decreased community or miner support for such a blockchain platform;
E. the existence or development of competing networks and platforms;
F. the existence or development of Forked versions of such a blockchain platform;
G. flaws in the Solidity scripting language;
H. disputes between such a blockchain platform developers, miners and/or users; and
I. regulatory action against such a blockchain platform developers, miners and/or users.

Source code changes and flaws

The various source codes used in the JUR Token and the Jur platform are subject to change and may at any time contain one or more defects, weaknesses, inconsistencies, errors or bugs.

No anonymity

Holding and transfer of JUR Tokens and use of the Jur platform (if and when developed) will not be anonymous. Your address and such participation will be recorded on a permissionless blockchain. It is possible to match addresses to identities. Furthermore, to comply with Anti Money Laundering (AML) regulations and in accordance with our privacy statements, disclosure will be made to relevant authorities and regulators upon request.

Loss of private key is permanent and irreversible

You alone are responsible for securing your private key. Losing control of your private key will permanently and irreversibly deny you access to your JUR Tokens. Neither Jur AG nor any other person will be able to retrieve or protect your JUR Tokens. Once lost, you will not be able to transfer your JUR Tokens to any other address or wallet. You will not be able to realise any value or utility that the Token may hold now or in the future.

Targeting of JUR Tokens, the Jur platform and Jur AG by malicious persons

JUR Tokens, the Jur platform and Jur AG may be targeted by malicious persons who may attempt to steal JUR Tokens or the proceeds, or otherwise intervene in the JUR Token sale, the Jur platform or Jur AG.

JUR Tokens and the Jur platform may also be vulnerable to exploitation of vulnerabilities in smart contracts and other code, as well as to human error. This could result in significant loss and/or other impacts that may materially affect your interests.

Targeting of You by malicious persons

Malicious entities may target you in an attempt to steal any JUR Tokens or cryptocurrencies that you may hold, or to claim any JUR Tokens that you may have purchased. This may involve unauthorised access to your digital wallet, your private keys, your cryptocurrency addresses, your email or social media accounts, as well as unauthorised access to your computer, smartphone and any other devices that you may use.

No liabilities

Jur AG or any of the Jur team is not liable for any indirect, special, incidental, consequential or other losses of any kind, in tort, contract or otherwise (including but not limited to loss of revenue, income or profits, and loss of use or data), arising out of or in connection with any acceptance of or reliance on this White Paper or any part thereof by you.

Market and industry information

The whitepaper may include market and industry information and forecasts that have been obtained from internal surveys, reports and studies, where appropriate, as well as market research, publicly available information and industry publications. Such surveys, reports, studies, market research, publicly available information and publications generally state that the information that they contain has been obtained from sources believed to be reliable, but there can be no assurance as to the accuracy or completeness of such included information.

No third party consent

Save for the Jur and its respective directors, executive officers and employees, no person has provided his or her consent to the inclusion of his or her name and/or other information attributed or perceived to be attributed to such person in connection therewith in this whitepaper and no representation, warranty or undertaking is or purported to be provided as to the accuracy or completeness of such information by such person and such persons shall not be obliged to provide any updates on the same.

No advice

No information in the whitepaper will or should be considered to be business, legal, financial or tax advice regarding Jur AG, the JUR Token and JUR Token sale or any possible future token sales.

Restrictions on distribution and dissemination

The distribution or dissemination of the whitepaper or such part thereof (as the case may be) may be prohibited or restricted by the laws, regulatory requirements and rules of any jurisdiction. In the case where any restriction applies, you are to inform yourself about, and to observe, any restrictions which are applicable to your possession of the whitepaper or such part thereof (as the case may be) at your own expense and without liability to Jur or any of its affiliated entities or any member of the Jur team.

RISKS

Prospective receivers or purchasers of JUR Token should carefully consider and evaluate all risks and uncertainties associated with Jur AG and its business and operations or any of its affiliated entities, the JUR Token, the JUR Token sale and any possible future token sale and the underlying assets, all information set out on the website, in this whitepaper and the purchasing agreement prior to any purchase of JUR Token. If any of such risks and uncertainties develop into actual events, the business, financial condition, results of operations and prospects of Jur AG could be materially and adversely affected. In such cases, you may lose all or part of the value of the JUR Token.

Purchasing JUR Tokens involve inherent risks, some of which are set out in this Section of the Whitepaper.

These risks, and additional risks arising either now or in the future, could result in the failure of the JUR Token transfers, the destruction of JUR Tokens or the utility of JUR Tokens, and/or the termination of the development of Jur.

There is a possibility that the purchase amount may be unrecoverable and/or that the JUR Tokens may cease to have inherent intrinsic value. You must therefore consider carefully whether the risks set out below, as well as all other applicable risks, are acceptable to you prior to deciding whether to purchase JUR Tokens.

You must seek professional advice (legal, taxation, financial, technical or otherwise) regarding your particular situation before purchasing JUR Tokens, holding the JUR Token or using the Jur platform.

Potential risks:

- blockchain-related risks: the underlying software application and software platform is still in an early development stage and unproven so there is no warranty that the process for creating JUR Tokens will be uninterrupted or error-free. There is an inherent risk of weaknesses, vulnerabilities or bugs of the software causing the complete loss of JUR Token and of the Jur platform;
- abandonment/lack of success: Jur AG may abandon the creation of the JUR Token and the development of the Jur platform for various reasons, including lack of interest from the public, lack of funding, lack of commercial success or

prospects (e.g. caused by competing projects) and legal, tax or regulatory considerations;

- regulatory risks: certain jurisdictions might apply already existing laws and regulations to blockchain technology-based projects or introduce new laws or regulations for this purpose. Newly introduced regulations may differ to the existing setup of the Platform. This may cause, inter alia, substantial modifications of the Jur platform or bring to the termination and/or the loss of JUR Tokens;

- jurisdiction-related risks: residents, tax residents or persons having a relevant connection with certain jurisdictions are excluded from the JUR Token sale. Changes in your place of domicile or the applicable law may result in you violating any legal or regulatory requirements of your applicable jurisdiction. You are responsible for ensuring that the delivery, holding, use or exchange of JUR Tokens is, and remains lawful despite changes to applicable laws, your residence and circumstances.