nominal fee.

- 4.1.2 The Patent claims necessary to implement the Identified Standard shall be made available on a Royalty-Free basis for the lifetime of the Standard.
- 4.1.3 Identified Standard shall be adopted and maintained by a not-for-profit organization, wherein all stakeholders can opt to participate in a transparent, collaborative and consensual manner.
- 4.1.4 Identified Standard shall be recursively open as far as possible.
- 4.1.5 Identified Standard shall have technology-neutral specification.
- 4.1.6 Identified Standard shall be capable of localization support, where applicable, for all Indian official Languages for all applicable domains.

5.2.2.5 United Kingdom

1. **Collaboration** - the standard is maintained through a collaborative decision-making process that is consensus based and independent of any individual supplier. Involvement in the development and maintenance of the standard is accessible to all interested parties.
2. **Transparency** - the decision-making process is transparent, and a publicly accessible review by subject matter experts is part of the process.
3. **Due process** - the standard is adopted by a specification or standardisation organisation, or a forum or consortium with a feedback and ratification process to ensure quality.
4. **Fair access** - the standard is published, thoroughly documented and publicly available at zero or low cost. Zero cost is preferred but this should be considered on a case by case basis as part of the selection process. Cost should not be prohibitive or likely to cause a barrier to a level playing field.
5. **Market support** - other than in the context of creating innovative solutions, the standard is mature, supported by the market and demonstrates platform, application and vendor independence.
6. **Rights** - rights essential to implementation of the standard, and for interfacing with other implementations which have adopted that same standard, are licensed on a royalty free basis that is compatible with both open source and proprietary licensed solutions. These rights should be irrevocable unless there is a breach of licence conditions.

5.2.2.6 European Union Public License

The European Union has a public licensing guidelines with stated licensing, published by the European Commission under the Directorate-General for Informatics. (*European Union Public*, 2021)

5.2.3 Open Geospatial Consortium (OGC)

The Open Geospatial Consortium defines Open Standards as standards that are:

1. **Freely and publicly available** – They are available free of charge and unencumbered by patents and other intellectual property.
2. **Non discriminatory** – They are available to anyone, any organization, any time, anywhere with no restrictions.
3. **No license fees** - There are no charges at any time for their use.
4. **Vendor neutral** - They are vendor neutral in terms of their content and implementation concept and do not favor any vendor over another.
5. **Data neutral** – The standards are independent of any data storage model or format.
6. Defined, documented, and approved by a formal, **member driven consensus process**. The consensus group remains in charge of changes and no single entity controls the standard.

5.2.4 Open Standards. Open Source (OASIS)

OASIS, technical committees (TCs) develop the standards, and then for the standard be adopted by the consortium as an open standard, it must:

1. Be created by domain experts (not SDO staff).
2. Be developed under and internationally respected, open process (i.e., be open for public review and debate).
3. Be easy to access and adopt.
4. Have allowed anyone affected by the standard to contribute to the development of it.
5. Not have hidden patents to scare implementers.
6. Have the ability to implement the standard baked in (i.e., OASIS standards must be verified by multiple Statements of Use).
7. Be safe for governments to endorse.

5.3 Open copyright qualifying organizations and qualifications

The following organization qualifies as having open copyrights.

5.3.1 Creative commons (CC) copyright licensing

Commons-type licenses can have the following potential allowances:

1. Share (redistribute) = yes (CC) / no.
   A. If yes, then CC identifier.
   B. If no, then not a commons license.
2. Attribution (identify source, citation of source) = yes (BY) / no.
   A. If yes, then BY identifier.
   B. If no, then no BY identifier.
3. Derivation (modify/mix) = yes / no (ND).
   A. If yes, then no ND identifier
   B. If no, then ND identifier.
4. Commercial (sell) = yes / no (NC).
   A. If yes, then no identifier.
   B. If no, then no NC identifier.
5. Share-Alike (every share/derivation keeps the same license) = yes (SA) / no.
   A. If yes, then SA identifier.
   B. If no, then no identifier.

Note, the CC acronym for what is being transitioned to has two distinguishable meanings:

1. **Coordinated Commons (CC)** - a concept describing how a societal system coordinates global resources for global human need fulfillment, in common.
   A. Attribution - citation sufficient for contextual source identification, and based upon a metadata standard identity collection template. If the commons is informational, then it is linked to a change within the contents of a social database, wherein social and personal profiles can make identifiable changes.
2. The **Creative Commons licensing organization** also abbreviated **(CC)**, who produces the well-known Creative Commons legally enforceable (by the State), copyright license set.
   A. Attribution - Give appropriate credit.

In the market-State, the "Creative Commons" label seems correct, because all legal persons are potential creators of licensable content, which they may contribute to the commons. Herein, a creative commons (CC) licensing organization exists to standardize commons-related State-enforceable licenses. In community, however, the commons is intentionally coordinated (coordinated commons; CC0), and there is no such thing as a property or property license rights. In a coordinated information system, logging of event identities is a synonym of "citation/accrediting)". Some content relates to societal operations, and hence is transparent, and some content relates to societal safety, and is hence personal to individual identities. So, discoveries, engineering, operations, etc., is all information that is in the coordinated commons and shared with all. In community, there is no commerce and no power-over-other type authoritarian relationships, so there is no commercial-related license, and there is no no-derivation related license. There is no privatization, and hence no need for CC0 or CC-BY in economic and/or societal content. Non-personal content is CC-BY-SA, to the extent that BY is logged as an event in the database to a given user identity. Personal information may be controlled on the network by individuals to the extent of the organizations they are participating in and their safety.

Note here that in community, not all information sets need to carry citation. For example, creative images, artwork, graphics, texture images, etc., may or may not have source metadata accompanying their use, and no one can use State force to prevent copying and sharing, expect on safety protocol (Read: legal) grounds. For the consumer/user, the source may or may not have any relevance to the use. Formal information, particularly information associated with standards and societal operations, necessarily carries citations. Items that have no need to carry citation ought to be marked specially, because it doesn't matter what "you" do with them or how "you" cite, because the content isn't relevant to the construction and operation of society. Furthermore, it is sometimes very difficult, and maybe even impossible to determine who an author was. At other times the content (whether considered design or not) may have many authors. There are many prior authors to the newest adaptation of any given art or engineering design. There are some open-source/copy-left licenses that do not require citation. This is particularly the case in software, where software does not require mentions to the program's authorship. In an open society, the default for information openness is set to "open", except where personal safety is the concern, and then it defaults to personal (i.e., Is that something you wanted shared with the world about yourself online?). A coordinated commons must account for the coordination of a common human population's access to a commons of resources and human contributions.

> **NOTE:** *Creative Commons copyright licenses do not contain specific terms about the distribution of source code, which is often important to ensuring the free reuse and modifiability of software.*

Under the Creative Commons licensing organizations license set, the following license categories are available:

1. **CC-BY (Creative Commons Attribution License):** Allows others to copy and redistribute the material in any medium or format and remix, transform and build upon the material for any purpose, even commercially. The source must be cited. CC-BY - must carry citation (a.k.a., attribution, reference,

source, etc.). In order to maintain transparency, accountability, and overall efficiency, it is important maintain attribution/citation. This license is reasonably similar to a public domain license, with the exception that citation/sourcing is required.

A. This is a non-persistent open-source copyleft license. Under the CC-BY licence, anyone who adapts the work can redistribute a modified version under the terms of their choice.

2. **CC-BY-SA (Creative Commons Attribution Share-Alike License):** Allows others to copy and redistribute the material in any medium or format and remix, transform and build upon the material for any purpose, even commercially, provided it is distributed under the same license as the original. The source must be cited. Because of the -BY-, attribution is given to the creator. CC-BY-SA optimizes the potential for more useful adaptations, then anyone in community can create optimizations and reciprocation. Conversely, with public domain, reciprocation is not necessarily the case (i.e., someone can adapt and then more permissively license the adaptation).

   CC-...-SA - A Share-Alike licenses that does not allow a change of the license after copying or adapting; hence, the license does not allow someone in the future to restrict its sale or distribution, and without either, it prevents the adaptations from being licensed more privately. This is a reciprocal license. CC BY-SA, however, binds the adapter to the terms of the original licence. These licenses ensure that the commons is maintained going forward. These types of licenses are also called "copy-left", because a legal person can only copy them if that person maintains the copyleft "copy-right" - it has to stay "left" (i.e., in the commons where it is copyable). Whereas, in copy-right the "right" means privatization, personal property rights.

   A. This is a persistent open-source copyleft license. Under the CC-BY-SA licence, anyone who adapts the work can redistribute a modified version under only the same terms as the received version.
   B. This is essentially a license for transition to community that allows content to be sold. That content may or may not have been produced using community resources. What community resources is it ok to sell into the larger market to maintain the community habitat service system?
   C. **NOTE:** *There ought to also be a CC-SA license for when attribution is unnecessary, and the "owner" wants to keep the content as free as possible going forward. Sometimes attribution (citation) is necessary for scientific and scholarly integrity. Sometimes attribution is wholly unnecessary, such as with generic 3D modeling.*
   D. **IMPORTANT:** CC-BY is one-way compatible with CC-BY-SA. You may adapt a BY work and apply CC-BY-SA to your contributions, but you may not adapt a CC-BY-SA work and apply BY to your contributions. Two-way compatibility means that you may adapt work under one license (X) and apply a second license (Y), and vice versa.

3. **CC-BY-ND (Creative Commons No-Derivatives License):** Allows others to copy and redistribute the material in any medium or format. However, if you remix, transform or build upon the material these modifications cannot be distributed.

   A. This is not an open-source copy-left license. Under the CC-BY-ND licence, adaptations cannot be distributed.

4. **CC-BY-NC (Creative Commons Non-Commercial License):** Allows others to copy and redistribute the material in any medium or format. However, the material may not be used for commercial purposes.

   A. This is not an open-source copyleft license. Under the CC-BY-NC licence, neither copies, nor adaptations can be sold/distributed.
   B. **CC-...-SA-NC** - This is essentially a license for transition to community that does not allow content to be sold. That content may or may not have been produced using community resources. What community resources is it ok to sell into the larger market to maintain the community habitat service system?
   C. **CC-...-NC** - Non-commercial licenses that does not allow the work to be used or added to any sellable/sold product. Content licenced via CC BY-NC cannot be mixed with CC BY or CC BY-SA. When a State releases content under a CC BY-NC license, it must then make the content available at no cost to any citizen upon request. Citizens and economic entities can print the copy and give away the copies, but they cannot sell the copies, and they cannot mix the copies with content that is being sold. This license limits potentially valid and useful access to information, making it's potential availability more limited during transition, but it does protect information resources inside of community that it does not want sold/traded in the market. Similarly, with physical objects during transition, some are produced to be sold into the market, and some to be used locally. The NC part of this license forbids any commercial use; so it forbids sale. It effectively

limits, unnecessarily, distribution. It would make integration of others' commons licenses difficult. Technically, you couldn't then sell a book licensed like that on Amazon.com, even if for no profit, because it is a non-commercial license. When States license NC work, they print it with tax money, and give it away. It is true that objects in community ought not be sold outside, unless specified in prior decisioning as a medium of interfacing with the market, but there is no need to place such a restrictive license on information being used for construction and transition to a community-type configuration. The SA part is sufficient and allows for best distribution of information during transition; it is a true community transition license that allows more people to participate.

D. Print versions of the societal specification standard are currently sold to the public. Even when a State makes all access to the digital and print version of the standards available for free, to all, the license for the standard may not change from CC-BY-SA to CC-BY-SA-NC.

E. Content licenced via CC BY-NC cannot be mixed with CC BY or CC BY-SA. When a State releases content under a CC BY-NC license, it must then make the content available at no cost to any citizen upon request. Citizens and economic entities can print the copy and give away the copies, but they cannot sell the copies, and they cannot mix the copies with content that is being sold.

F. Print versions of the societal specification standard are currently sold to the public. Even when a State makes all access to the digital and print version of the standards available for free, to all, the license for the standard may not change from CC-BY-SA to CC-BY-SA-NC.

5. **CC-BY-NC-SA (Creative Commons Non-Commercial Share-alike):** Allows others to copy and redistribute the material in any medium or format, remix, transform and build upon the material for any non-commercial purpose, but the material may not be used for any commercial purpose. If the material is remixed, transformed or built upon, it must be distributed under the same license as the original. This is a highly restrictive license and is sometimes used by States. The State uses tax money to produce and print/publish the works (licensed under this license), and then, the State gives the material away.
   A. This is not an open-source copyleft license. Under the CC-BY-NC-SA licence, neither copies, nor adaptations can be sold/distributed, and if it is adapted and distributed, the license remains the same.
6. **CC-BY-NC-ND (Creative Commons Non-Commercial No-Derivatives License, a.k.a., CC-BY-NC-ND-SA):** Allows others to copy and redistribute the material in any medium or format. However, the material may not be used for commercial purposes and if remixed, transformed or built upon the modifications cannot be distributed.
   A. This is not an open-source license, because it does not allow for commerce.
7. **CC0 (Creative Commons Zero, P0)** - license (contract) stating forfeiture of all rights and an entrance of the content into the public domain. CC0 releasing owners wish to permanently relinquish their rights to a work for the purpose of contributing to a commons of creative, cultural and scientific works ("Commons") that the public can reliably and without fear of later claims of infringement build upon, modify, incorporate in other works, reuse and redistribute as freely as possible in any form whatsoever and for any purposes, including without limitation commercial purposes. There is no need to even cite public domain content.
   A. This is a license that puts the content in the public domain (PD).

6 Auravana license agreements

A.k.a., Contributor agreement, project Terms of Service (ToS), service license agreement, property license agreement, contribution license agreement (CLA), copyright assignment agreement (CAA), contributors work-role agreements, contribution service agreement, contributor open-access agreement.

Licensing is the base of a legal-State operational framework of content creation, distribution, and use across various domains, including software development, media, intellectual property, and real property. It encompasses a wide array of agreements that grant permissions or rights from the owner to another party (Read: rights assignment), often delineating how the licensed work can be used, shared, or modified. These licenses can range from highly restrictive, controlling the extent of use and distribution, to permissively and publicly open, allowing for broad use and privatization of the work. In the context of collaborative environments and open-source projects, licensing becomes especially critical, ensuring that contributions can be legally integrated and distributed while protecting the "rights" of all parties involved. The intricacies of licensing agreements, including Contributor License Agreements (CLAs), which form the backbone of this ecosystem, safeguarding the collaborative orientation by clarifying terms of contribution, usage, and distribution of collective work. A Contributor Licence Agreement (CLA) is strongly recommended when accepting contributions to an open development compilation project

The conditions of license agreements and Contributor License Agreements (CLAs) are closely connected with an organization's Terms of Service (ToS), typically stated on their website. These ToS not only govern the general use of the organization's services and platforms, but also delineate the legal framework within which users and contributors engage with the organization's resources and work. By specifying the rights, responsibilities, and restrictions associated with the service, the ToS complements CLAs by providing a broader legal context that ensures all interactions and contributions align with the organization's operational, legal, and value standards. This comprehensive approach ensures that while CLAs address the specifics of contributions to projects, particularly in open-source environments, the ToS establishes the overarching legal agreement that users consent to, thereby securing a cohesive legal and operational ecosystem that supports the organization's objectives and protects its interests as well as those of its users and contributors.

6.1 Contributors license agreement

A CLA establishes the legal groundwork for an open-source project by defining the terms and conditions under which contributions — be they code, artwork, documentation, or translations — are made to a project. The purpose of a contributor license agreement (CLA) is to define the terms and conditions under which a contribution will occur. A CLA is a legal agreement between the project maintainers and contributors to establish the terms under which contributions are made to the project. A CLA ensures that contributors grant the project the necessary rights to use, modify, and distribute their contributions, and it may specify the license under which contributions are made available. CLAs are particularly important for open-source projects to manage legal risks and ensure that contributions can be distributed under the project's chosen open-source license without encountering legal barriers. Serving as a formal agreement between project maintainers and contributors, CLAs are instrumental in clarifying the rights conveyed with contributions, ensuring that the project has the legal ability to use, modify, and distribute these contributions under its chosen license. This is paramount in managing legal risks and affirming that the project's outputs can freely circulate without legal impediments. For open-source initiatives, the assurance provided by CLAs that contributions integrate seamlessly and permanently into the project underpins the project's integrity and its ongoing distribution under the open-source license. Moreover, the terms and conditions outlined in these agreements, often accessible on the project's platform, fortify the project's legal standing in the modern digital ecosystem, guaranteeing that contributions remain a part of the project in perpetuity.

A contributors license agreement ensures that a project's outputs has the necessary ownership or grants of rights over all contributions to allow them to be distributed under the chosen license. When a contribution is made to an open [source] project, there is an implicit assumption (and sometimes explicit consent) that the contribution (code, translation, artwork, etc.) may be incorporated into the project and distributed under the license the project is using. Often, open source projects will state their Terms and Conditions, an may even link a free or open source license. These terms, which are accessible via the project's platform, are generally all that is required to protect an open source platform in the modern 21st century market-State. Most importantly, their simple presence ensures that contributions cannot be withdrawn by the contributor.

> **NOTE:** *Normally, when a contributor submits a contribution to a project, that contribution is going to be licensed under the terms of that project.*

Regardless of the chosen license, what matters most in the market-State is that the contributions coordinator ensures that when accepting project contributors/contributions, a contribution service coordinator must have received, accepted, and recorded/stored a signed Contributor License Agreement, which is acquired from each contributor. Or, at least, a specific agreement to the Project's Terms of Service. At the minimum there must

be agreement of the Project's Terms of Service. This will allow the Project and others to safely redistribute their contributions, and possibly, to change to another open-source license later. A primary responsibility of the contributions coordinator lies in ensuring the seamless acceptance and recording of project contributors and their respective contributions. Central to this role is the acquisition, acceptance, and archival storage of a signed Contributor License Agreement (CLA) and work descriptions, from each individual.

Generally, the purpose of the CLA is: "The purpose of this agreement is to clearly define the terms under which intellectual property has been contributed to the Projet and thereby allow us to defend the project should there be a legal dispute regarding the contribution at some future time." Note that an additional contributor agreement can create additional, unnecessary, administrative work for project maintainers. How much work an agreement adds depends on the project and implementation. A simple agreement might require that contributors confirm, with a click, that they have the rights necessary to contribute under a project's open source license. A more complicated agreement might require a signature from the contributor and from a Project coordinator. A downside of Contributor Agreements is that they pose a small overhead and barrier to contribution.

Contributor Agreements may provide additional confidence that there likely will not be any legal issues in the future regarding the individual contributions that make up the project, such as disputes over origin, ownership, and loss. Also, a project might need to change licenses over its lifetime and want contributors to agree in advance to such changes.

Contributor agreements for a societal project may cover:

1. **Copyright:** Contributors grant a broad set of permissions and they are sometimes asked to assign their copyright to the project. The Contributor Agreement also ensures that contributors are entitled to contribute their changes to the project.
2. **Trademarks:** Contributors ensure that marks (if there are any) are owned by the project rather than by individual contributors. This avoids possible disputes in the future if contributors leave a project.
3. **Patents:** Contributors grant a patent license to the project in order to ensure that a contributor cannot attack the project in the future by asserting its patents against it.
4. **Market-State rights:** Contributors are asked not to assert any market-State rights (where they exist) in order to stop derivative works.
5. **Contributions by minors:** Some Contributor Agreements define how contributions by minors are handled.

The Terms of Service (ToS) of a project/website are similar to a contributors license agreement (CLA). Whereas the CLA focuses on contribution, the ToS outlines rules and guidelines for using a website or service. They are both legal documents that play a role in decisioning, and address intellectual property rights and risk management.

6.2 Auravana Project Individual Contributors License Agreement and Terms of Service

There are three agreement sets (abbreviated in the bullets below):

1. Terms of Service for the Auravana Project:
   - **[ToS Project].**
2. Contributors License Agreement for the Auravana Project:
   - **[CLA Project].**
3. Contributors License Agreement for workshops held by the Auravana Project:
   - **[CLA Workshop].**

[ToS PROJECT]
These Terms of Service ("Terms") govern your participation in and use of the services and resources provided by the Auravana Project ("Project"). By engaging with the Project in any way and via any medium, you agree to these Terms.

PROJECT AURAVANA, also known as AURAVANA or AURAVANA PROJECT, and hereafter known as the PROJECT (auravana.org).

These Terms and Conditions are most up-to-date and current on the Auravana Project's website: https://auravana.org/about/terms-and-conditions

1. **Definitions:**
   "You" and "Your" refer collectively to both "Users" (of the Project's website and any and all Project work and resources) and "Contributors" (to the Project and any and all Project work and resources), encompassing anyone engaging with the Project, whether by using the Website, accessing the Services, or contributing Content.

[CLA PROJECT]
This Contributors License Agreement is made publicly by the undersigned ("Contributor") and Project Auravana ("Project"), hereinafter as "Party" or collectively as "Parties", for the purpose of participation in Project Auravana.

In order to clarify the intellectual property license granted with Contributions from any person or entity,

The Auravana Project must have a Contributor License Agreement ("CLA") on file that has been signed by each Contributor, indicating agreement to the license terms.

WHEREAS, both Parties wish to clarify the intellectual property license involved in the Workshop;

WHEREAS, both Parties wish to contribute their intellectual property in order to assist the development of the Workshop;

"You" accept and agree to the following terms and conditions for "Your" Contributions (present and future) submitted to the Auravana Project.

1. **Definitions:**
   "You" (or "Your") shall mean the copyright owner or legal entity authorized by the copyright owner that is making this Agreement with the Project. For legal entities, the entity making a Contribution and all other entities that control, are controlled by, or are under common control with that entity are considered to be a single Contributor. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

   "Contribution" shall mean any original work of authorship, including any modifications or additions to an existing work, that is intentionally submitted by You to the Project for inclusion in, or documentation of, any of the outputs of the Project (the "Work"). For the purposes of this definition, submitted" means any form of electronic, verbal, or written communication sent to the Project or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Project for the purpose of discussing and improving the Work.

[CLA WORKSHOP]
This Contributors License Agreement ("Agreement") is made publicly by the undersigned ("Contributor") and [Workshop Organizer Name] ("Organizer"), hereinafter as "Party" or collectively as "Parties", for the purpose of participation in the [Workshop Name] ("Workshop") on [Dates].

WHEREAS, both Parties wish to clarify the intellectual property license involved in the Workshop;

WHEREAS, both Parties wish to contribute their intellectual property in order to assist the development of the Workshop;

By participating in [Workshop Name] ('Workshop'), in any capacity, including but not limited to attending in person, engaging remotely, or contributing in any manner related to the Workshop activities, whether before, during, or after the actual event, you ('Contributor' or 'You') hereby accept and agree to the following terms and conditions with respect to your submission of ideas, code, documentation, designs, and any other materials or contributions ('Contributions') made in connection with the Workshop.

By participating in [Workshop Name] ('Workshop'), in any capacity, including but not limited to attending in person, engaging remotely, or contributing in any manner related to the Workshop activities, whether before, during, or after the actual event, you ('Contributor' or 'You') hereby accept and agree to the following terms and conditions with respect to your submission of ideas, code, documentation, designs, and any other materials or contributions ('Contributions') made in connection with the Workshop.

1. **Definitions:**
   "You" (or "Your") shall mean the copyright owner or legal entity authorized by the copyright owner that is making this Agreement with the Workshop. For legal entities, the entity making a Contribution and all other entities that control, are controlled by, or are under common control with that entity are considered to be a single Contributor. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

   "Contribution" shall mean any original work of authorship, including any modifications or additions to an existing work, that is submitted by You to the Workshop for inclusion in, or documentation of, any of the outputs of the Workshop (the "Work"). For the purposes of this definition, submitted" means any form of electronic, verbal, or written communication sent to the Workshop or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Workshop for the purpose of discussing and improving the Work.

[ToS PROJECT] & [CLA PROJECT] & [CLA WORKSHOP]

2. **Contributions and licensing:**
   You reserve all right, title, and interest in and to Your Contributions.

   The Project/Workshop plans to share the final work product ("Deliverable") which includes everyone's Contribution, with a copy-left license. This approach ensures that the Deliverable remains freely available for both commercial and non-commercial use under the terms of a copy-left license. All users and redistributors are required to give appropriate credit, provide a link to the license (where applicable), and indicate if changes were made to the original work. Furthermore, if the Deliverable is adapted, modified, or built upon, the resulting work must also be shared under the same or a compatible copy-left license, thus ensuring the freedom to use, modify, and share the work is preserved for all subsequent creations.

   The Project/Workshop employs copy-left licenses and open patent licensing to ensure contributions remain open and freely accessible. These copy-left licenses ensure that contributions can be freely used, modified, and shared, provided that any derivatives are also shared under the same terms. Outputs of the Workshop are managed under the following copy-left licenses to ensure our shared work remains freely accessible and reusable:

- **Creative Content:** Licensed under the Creative Commons Attribution-ShareAlike (CC BY-SA) license.
- **Software:** Licensed under the GNU General Public License (GPL), Lesser General Public License (LGPL), or Mozilla Public License (MPL), as appropriate.
- **Patentable Inventions:** Licensed under open patent licenses, requiring derivatives to be shared under the same terms.

//TOS PROJECT**//**

Under this license anyone is also free to freely distribute (for no profit), as well as trade and sell (for profit), The Auravana Project's intellectual property; however, if "you" choose to sell any of The Auravana Project's intellectual property in whole or in part you must prominently display:

- Referentially credit Project Auravana as the source of the intellectual property.
- Include a link to where a customer may retrieve the intellectual property for free from Project Auravana.

//TOS PROJECT**//**

3. **Grant of copyright license:**
   By contributing to the Project/Workshop in any form, including but not limited to submissions such as questions, comments, suggestions, and contributions of any nature ("Submissions" and "Contributions"), you acknowledge that they are for use in a compilation and agree to grant the Workshop a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable license to use, modify, reproduce, prepare derivative works from, publicly display, publicly perform, sublicense, and distribute your Contributions and any derivative works. This grant includes the right for the Project/Workshop to sublicense and create derivative works under its chosen copy-left license, thereby ensuring that your Contributions, as well as any adaptations or modifications thereof, remain freely accessible and distributable under the same or a compatible copy-left license terms. By making your Contributions, you implicitly agree to allow the Project/Workshop to use them in accordance with its selected copy-left licensing model, promoting an environment of collaboration and open sharing that upholds the principles of copy-left licensing to benefit all participants and the wider public.

4. **Grant of patent license:**
   By contributing to the Project/Workshop, you hereby grant to the Project/Workshop, and to any recipient of the Work distributed by the Project/Workshop a perpetual, worldwide, transferable, non-exclusive, no-charge, royalty-free, irrevocable, and sublicensable patent license. This license encompasses the rights to make, have made, use, sell, offer to sell, import, and otherwise transfer your Contribution, in whole or in part, alone or included in any Work. The license applies to any patent claims owned or licensed by you that are necessarily infringed by your Contribution or by its combination with any Work distributed by the Project/Workshop. Furthermore, this patent license extends to those claims licensable by you that are necessarily infringed by your Contribution(s) alone or in combination with the Work to which such Contribution(s) have been submitted. Should any entity initiate patent litigation against you or any other entity, including filing a cross-claim or counterclaim in a lawsuit, alleging that your Contribution, or the Work to which you have contributed, constitutes direct or contributory patent infringement, then any patent licenses granted to that entity under this Agreement

for that Contribution or Work will automatically terminate as of the date such litigation is filed. This provision ensures that the Project/Workshop and its users are protected from patent claims while promoting a collaborative environment that respects the principles of copy-left and open patent licensing.

[CLA PROJECT]

5. **Modifications and Derivative Works:**
   At the Projects sole, absolute and unfettered discretion, it may make any changes in, deletions from, and/or additions to Contributions. Contributions may be modified or combined to create derivative works.

[CLA WORKSHOP]

6. **Modifications and Derivative Works:**
   At the Workshops sole, absolute and unfettered discretion, it may make any changes in, deletions from, and/or additions to Contributions. Contributions may be modified or combined to create derivative works.

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Approach: Timing

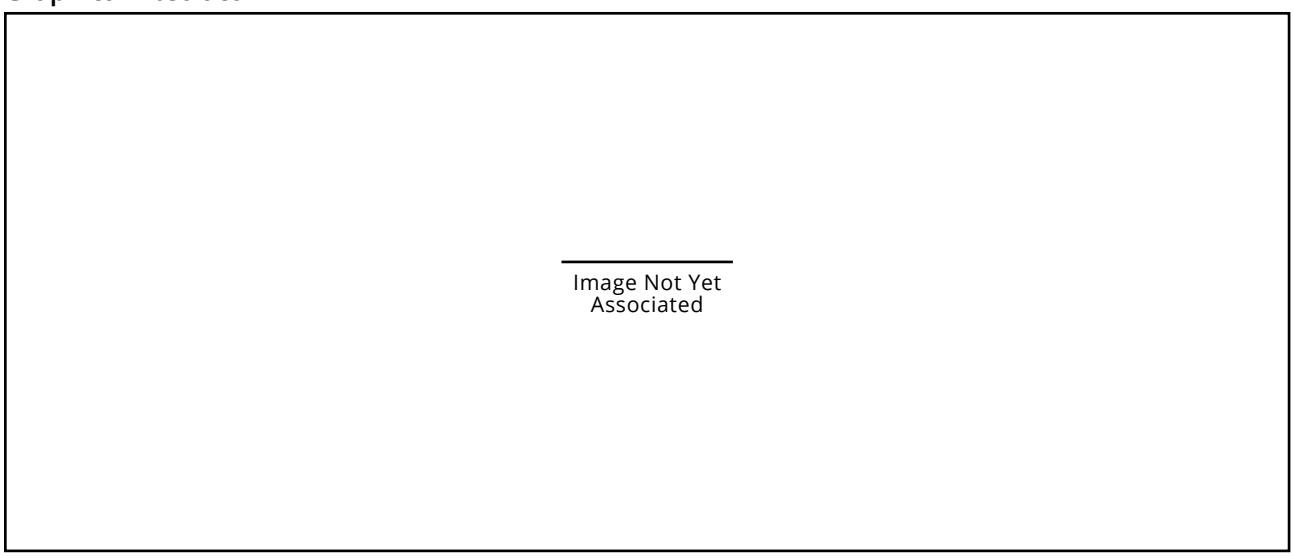
Travis A. Grant,
Affiliation contacts: *trvsgrant@gmail.com*
Version Accepted: 1 April 2024
Acceptance Event: *Project coordinator acceptance*
Last Working Integration Point: *Project coordinator integration*

Keywords: civil calendar event timing, calendaring, project calendar scheduling, project timing,

Abstract

This article explores the critical role of civil calendar event timing, scheduling, and date and time formatting within the context of project planning for societal operations. The article proposes a comprehensive redesign of the civil calendar system, advocating for a transition to a 13-month structure, with each month comprising 28 days for a total of 364 days, alongside an additional "non-day" to accurately align with the solar year. This restructured calendar is presented as a solution to the inconsistencies and inefficiencies inherent in the current Gregorian system, offering a more logical, streamlined approach to timekeeping that is better aligned with natural cycles. The article argues for the benefits of this system in simplifying scheduling and financial operations, making planning more predictable and consistent across various sectors. By introducing equal-length months, the proposal aims to eliminate the current system's irregularities, facilitating smoother economic planning, industrial scheduling, and personal organization. This calendar reform is positioned within a larger framework of societal transformation, aiming at reorganizing societal practices towards greater sustainability, efficiency, and harmony with ecological and human needs. The article outlines the rationale, advantages, and implementation strategy for this calendar system, emphasizing its role in a broader vision for an optimized, equitable society. The article also proposes a clear daily-time cycle unit and dating format.

Graphical Abstract



1 Civil calendar event timing

A.k.a., Civil calendar systems.

Civil calendars play a crucial role in organizing and regulating human activities across the world. These calendars are distinct from astronomical calendars and are primarily designed for the practical and administrative needs of society. They provide a systematic way to measure and divide time into a useful scale (e.g., seconds, days, weeks, months, and years), facilitating the synchronization of various events and activities. Civil calendars are used for scheduling appointments, setting dates for holidays, planning meetings, and ensuring the smooth functioning of organizations and societies. From scheduling work shifts and planning production processes to coordinating agreement, civil calendars provide the temporal structure necessary for smooth socio-economic functioning. They serve as a common framework for event timing, allowing for the coordination of action and social occasions at specific intervals throughout the year.

Civil calendars are typically separated into the following primary sub-units:

1. Hierarchy command selection (multiple years separation).
2. One year (a.k.a., "yearly").
3. Multi-year non-command decision (a.k.a., multi-year separation).
4. Months: yearly economic production cycles.
5. Weeks: separation of work in to socio-fulfillment phases (axiomatic economic phases of work, no-work, god, flow, etc.).
   A. In the market-State, weeks are typically separate into a phase of work (for profit-survival and command), and a phase of separation from work (as profit-based and survival-centered actions).
   B. In community, lives are typically separated into the phases of activities that produce the most flow and fulfillment in our lives given our stage of human-life duration experiences:
      1. Developmental experience phases:
         i. Nurturing.
         ii. Educating.
         iii. Contribution.
         iv. Leisuring.
      2. Vector: Flourishing, as a dynamically optimizable variable-vector (encoded concept) across all four 'developmental experience' variables, optimized by the usage of the temporal sub-unit solar cycles of: daily, monthly, yearly, and multi-yearly durations of time. Here, there are 'months', in-place of 'weeks', where people have no need to take weakly breaks from their lives. In community, there is the 'flow' cycle in operation/experience over seasonal months, leading to greater experience of flow throughout all human-life phases.
6. Seasons: Solar ecological biospheric cycles.
   A. Which provide for:
      1. Vegetative growth phases.
      2. Livestock growth phases.
      3. Human-life growth phases.
         i. Nurturing, educating, contributing, leisuring.
      4. Human-flow fulfillment phases.
         i. Struggle, release, flow, restore.
      5. Habitat operation master-plan *cycles*-design/*phases*-operations.
         i. InterSystem-Team service-access operations.
            1. Common access operations.
            2. Personal access operations.
            3. User-access operations.
      6. Master planning decision cycles.

There are a set of sub-month units for the socio-economic planning of production and user lifestyles:

1. Week:
   A. "Week" days.
   B. "Week end" days.

In the context of socio-economics, there are also (sub-month) functional day units:

1. **Work days** (a.k.a., "week" days).
2. **Non-work days** (a.k.a., "week-end" days).
3. **Public holidays** (a.k.a., religious days, State enforced non-work days).

In concern to civil calendars, 3 basic issues can create significant additional complexity for individual and social planning purposes:

1. Uneven length of months.
2. Leap days (every year, an additional day or days).
3. Leap years (every 4 years, an additional day or days).

1.1 The solar year calendar

A.k.a., Solar-day cycle time, solar cycle time, astronomical solar time, local solar astronomical time.

The earth both rotates on its 'axis', and 'orbits', the sun (i.e., earth rotates around itself and revolves around the sun. A solar year pertains to the movement of stars and

planets, and in the case of earth, it signifies a full orbit around the Sun, taking approximately 365 Earth days. This solar year corresponds to 365 day-night cycles, where each day results from the Earth's rotation on its axis, causing the alternating cycle of day and night as a specific location on Earth moves relative to the Sun.

When discussing solar-cycle time, there are three key variables:

1. **Earth orbit solar cycle:** This represents a consistent and equal time unit that repeats annually. It is based on the Earth's orbit around the sun. An earth orbit solar cycle is an equal/stable year-over-year time unit.
2. **Day-night cycle:** This refers to the regular cycle of day and night, with each day consisting of 24 hours.
3. **Derived "month" unit:** This is a time unit that divides the day-night cycle into equal parts within the solar cycle. In this context, it creates a month-like unit that aligns with the solar year. It can align with an equal or unequal number of days in each month).
   A. For instance, a thirteen-month cycle is a derived unit that spans 28 days, with an additional day added annually, and this extra day can be placed at any point throughout the year to maintain the stability of the calendar.
   B. Alternatively, the Gregorian calendar has months with 28, 29, 30, and 31 days.

NOTE: *Each solar system, planet, and moon will still have its own solar year and solar day*

To divide the total number of day-night cycles in a solar year into equal parts, we can approximate it by creating a calendar with 13 months, each consisting of 28 days, plus one additional day. This arrangement amounts to 364 days (28 days per month times 13 months) along with one extra non-day, totaling 365 days in alignment with the solar year. This structure ensures that each month comprises exactly twenty-eight days.

The solar calendar uses the objective and equal time units of:

1. Year (x1 revolution of the earth around the sun).
   A. Months (x13).
      1. Days (x28).
2. Non-day (i.e., non-month day)
   A. Year day (+1/yr).
   B. Leap day (+1 every 4yrs).

CLARIFICATION: *Leap years occur approximately every four years to account for the extra time it takes for the Earth to orbit the Sun, with some exceptions to keep the calendar synchronized with astronomical events. It is also possible to have "leap" seconds and "leap" minutes to bring clocks that have drifted back to perfect aligned timing. The concept of "leap" to denotes the adjustment made to timekeeping tools to align them more closely with a fixed time. A leap year (or intercalary year) is a year containing an extra day (or, in case of lunisolar calendars, an extra month) in order to keep the calendar year synchronized with the astronomical or seasonal year. By occasionally inserting (or intercalating) an additional day or month into the year, the drift can be corrected. A year which is not a leap year is called a common year.*

In the market-State, there is a weekly cycle of work, with a standardized four week work-break-work cycle. This four-week, seven-day work-break-work cycle is an artificial subdivision of the objective 13+1 month calendar. The week is potentially an unnecessary sub-division of the month for production (.e., economic) purposes. There are not equal weeks of seven days in a solar year. A solar year of 365-days divided by a cycle of 7-days leads to a unequal 52.41 weeks in a year cycle.

1.2 The lunar calendar(s)

A.k.a., Lunar cycle time, lunar-day cycle time, astronomical lunar time, local lunar astronomical time.

The lunar cycle, consisting of the phases of the moon, completes its course in approximately 29.5 days, culminating in a total of 354 days over 12 full cycles within a solar year. In other words, a full moon happens every 29.53 days with a lunar solar-year being approximately 354 days, which is 11 days shorter than Earth's solar year (of 365 days); therefore, depending on when the first full moon is, there will be 12-13 full moons per year. Given the solar year comprises 365 days (or 366 days in a leap year), approximately every two and a half years, a 13th full moon occurs within a single calendar year. This phenomenon disrupts the regularity of a standard balanced, thirteen-month calendar, where each month would uniformly consist of twenty-eight days, plus an additional day not assigned to any month (as the least number of additive days).

Historically, lunar cycles have played a pivotal role in timekeeping, particularly for religious faiths. Notably, ancient civilizations such as the Egyptians and Babylonians utilized the moon's phases as a calendrical system. For instance, the Babylonians, as early as the 5th century BCE, implemented a lunar calendar. This calendar was structured around 12 months, each spanning 29 or 30 days. To align with the solar year, they added an extra five or six days at the year's end, occasionally incorporating an additional intercalary month to adjust for the discrepancy between lunar cycles and the solar year.

Table 31. Measurement > Time > Calendar*: The days of the*

month for a lunar cycle are wildly different from month to month (-30 to +30), for 2018.

Month #	Date	Gregorian Delta Days
1	01-January	-2
2	31-January	+30
3	01-March	-30
4	31-March	+30
5	29-April	-2
6	29-May	0
7	28-June	-1
8	27-July	-1
9	26-August	-1
10	24-Sept-ember	-2
11	24-Oct-ober	0
12	23-Nov-ember	-1
13	22-Dec-ember	-1

In the Gregorian calendar from month to month, the delta for the date of the full moon varies by as much as -30 days to +30 days, which is a very broad range; although the more normalized range falls between -2 and +1, which is a more modest range date range of 4 (-2, -1, 0, 1).

In concern to the international fixed calendar, the lunar year is shorter than (354 days) and the lunar month is near the same (29.53 days). With a consistent 28 day month it is easier to predict the changes of the date of the next full moon from month-to-month, which amounts to same date next month + 1 day or +2 days. The international fixed calendar is more in sync with the lunar pattern than is the Gregorian calendar.

1.3 The international fixed calendar

A.k.a., Equal month calendar, the thirteen month calendar, uniform month calendar, the indigenous calendar, world calendar, the equal-month solar calendar, the Cotsworth plan, the Eastman plan, the fixed solar year calendar, the solar international calendar, international perpetual calendar, the international fixed civil calendar.

The international fixed calendar (IFC) represents is a proposed calendar that can overcome the shortcomings of the conventional Gregorian calendar. This alternative calendar offers a unique approach to organizing time, aiming to simplify datekeeping, enhance global coordination, and provide a more rational and balanced calendar system. It offers an intuitive method for time organization, with the primary objectives of streamlining datekeeping, promoting international synchronization, and establishing a more logical and equitable calendar structure. At its core, this calendar entails each month consisting of precisely 28 days, resulting in a total of 13 months within a year. Summarily, this is a calendar that separates the solar year into 13 months, each with 28 days, with one day at the end of each year belonging to no month or week. This configuration results in a 364-day calendar year and one non-day between years. Essentially, the calendar has an equal number of days in every month, and the same number of months every yearly cycle. All months would have exactly four weeks.

If the month is to be a proper unit of account for time, then all months should be equivalent in days (28 days); the days of the month should not change for the month unit to have precise meaning in concern to time (i.e., to have functional temporal meaning). To equally partition months throughout a single 365 day year, there will be 13 months, each with an equal 28 days. And, there would be one "non-day" per year that is not part of the thirteen 28-day month cycle to bring the calendar baseline calendar year to 365 days. Thus, a year is composed of 365 days that are equally divided into 13 months of 28 days, with one "non-day" per year (to have a total of 365 days). The non-days (once per year and once every four years) are placed anywhere in the calendar between two months. Obviously, the "non-day" is still a real-world experiential day, it is just that it is not counted as a day of any month in the 365 day year cycle (thus, it is not a day of the week either):

- ((364 days = (13 months) (28 days)) + 1 non-day = 365) + 1 leap day/4 years = 366 days every 4th year

The international fixed calendar has the following unique characteristics:

1. The extra month is placed:
   A. Between June and July and is named Sol (for the Sun).
2. The extra, in-between day (364 + 1day) is placed:
   A. Between December and January. This day is called "new years" day (or, year day), and it does not count in the normal cycle of the week or the month.
3. A leap day is required to eliminate drift. Every four years there is a leap day that occurs:
   A. Right after June, before the month of sol starts (Cotsworth plan).
   B. Mid-month in Sol, on the summer solstice, between Saturday 14th and Sunday 15th, and it would be the longest day of the year (in Northern hemisphere).

Just like the "year" day, "leap" day doesn't count as a day. In this scenario, both year day and leap day will always fall on the weekend between Saturday and Sunday.

NOTE: *To recalculate a specific day, first determine how many days into the year the specific day is in the old calendar (e.g, 72 days, or 182 days), and then map that one to the new calendar.*

Hence, the international fixed calendar has three categories of day units:

1. **"Month" days** (28 days per month).
   A. Where "weeks" are four equal separations within the 28 days of every month:
      • 28 days = (7 days)(4 weeks)
2. **"New year" days** (a.k.a., non-day, year-day; is not a day of the month, are not a month-day; happens once per cycle). This is not a day of the week or month.
3. **"Leap year" days** (a.k.a., leap day, leap non-day; is not a day of the month, are not a month-day; happens once every 4 cycles). It isn't the day of a week or month. This is not a day of the week or month.

   CLARIFICATION: *Leap years (which keep the calendar in sync with the year) should not be confused with leap seconds (which keep clock time in sync with the day).*

Each month will have 28 days meaning each day of each month will be the same day of the week forever, meaning that the 1st of each month will always be the first day of the week (as a consequence, "birthdays" will remain on the same day of the week). Since each month consists of exactly four weeks, the first day of each month and every seventh day after that for the rest of the month is deemed to be a Sunday, the second day of each month and every seventh day after that for the rest of the month is deemed to be a Monday, and so on. Therefore, each month begins on a Sunday and ends on a Saturday. It could also start on Monday and end on Saturday, if that was the chosen pattern.

Table 32. Measurement > Time > Calendar*: All months in the international fixed calendar look like this and have 28 days, with the day of the week starting on Sunday:*

Week	1	2	3	4	5	6	7
	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	01	02	03	04	05	06	07
2	08	09	10	11	12	13	14
3	15	16	17	18	19	20	21
4	22	23	24	25	26	27	28

Table 33. Measurement > Time > Calendar*: All months in the international fixed calendar look like this and have 28 days, with the day of the week starting on Monday:*

Week	1	2	3	4	5	6	7
	Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	01	02	03	04	05	06	07
2	08	09	10	11	12	13	14
3	15	16	17	18	19	20	21
4	22	23	24	25	26	27	28

To remove the "Friday the 13th" issue it is possible to start the calendar on Monday instead of Sunday, which:

1. Gets rid of Friday the 13th.
2. Allows each year, month, and week to start on a Monday which makes more sense since Monday is the beginning of the work week and has the full weekend at the end of the week.
3. The intercalary days will be found at the complete end of the week and month so it can be the 29th day of the month and still part of the weekend.

Table 34. Measurement > Time > Calendar*: If the year were separated into quarters; then, end dates for quarters all end on the same day of the week each and every year and the quarters are even. Normally, only the 4th quarter has a different number of days (+1 day) due to the solar year having 365 days per year and not the evenly divisible 364 days. In Leap Years Q3 has 1 extra day due to the addition of Leap Day on June 29 (if that is where the Lead Day is to be placed). Dates for the basic 13 week quarters end on the same day of the week each and every year. Only the 4th quarter has a different number of days due to the solar year having 365 days per year and not the evenly divisible 364 days. Here, there is an intercalary day, Year Day. In Leap Years Q3 will have 92 days. The quarters end on the same day of the week each and every quarter.*

Quarter	End Date	Days in Quarter
Q1	Sunday, April 7	91
Q2	Sunday, June 14	91
Q3	Sunday, August 21	91 (+1 Leap day every 4 years = 92 every 4 years)
Q4	Sunday, December 28	92 (91 + 1 non-day)

The benefits of this are intuitive, obvious, numerous, and significant:

1. With 13 twenty-eight day months, every month is identical in terms of the positioning of its weekly sub-unites in an ordered count (from 1-28). All months would have the same number of days (28), the same number of working days (except public holidays), and the same number of Sundays and Saturdays.
   A. The first of the month always falls on a Sunday; the month will always start on Sunday.
   B. The second of very month will always be a Monday. Monday will always be the 2nd, 9th, 16th, and 23rd of every month.
   C. The last day of the month always falls on a Saturday; the month would always end on Saturday.
   D. Each weekday would always occur on the same four fixed dates of the month.
2. Thus, a public holiday would always occur on the same week-day every year. Users will always know what day of the week every holiday and day of the month is.

3. Quart-years and half-years would be of the same length.
4. All the solstices and equinoxes will fall on the same day every year (and they will always be on a weekend).
5. Year-specific calendars would not longer be needed; one fixed monthly calendar would be sufficient (this economizes information and physical resources). The same calendar format can be used every year, and new calendars layouts do not have to be printed each year.
6. Planning or scheduling events becomes easier because dates are consistent every month and every year with the days of the month falling on the same days of the week.
7. Finances are easier to maintain and plan due to equal month lengths. Where goods carry a price and laborers are paid, calculating pay per month is no longer erratic. Calculating pay using the Gregorian calendar is erratic on a month-by-month basis, which makes monthly financial planning difficult. Where payment is by the month, payment is proportionately the same each month.
8. Production calculations per month have a stable number of days (and hours), allowing for a constant to which availability, uptime, and other production variables can be calculated simply. In production planning and analysis, using a stable number of days per month for calculations enables a consistent framework for assessing various production variables such as availability, uptime, maintenance schedules, and overall output. This approach simplifies the complexity inherent in production coordination. In other words, there is the same number of production days and hours each month.
9. Trends and analysis become easy to track using this format.
   A. 13 months with the same length (4 weeks of 28 days)
   B. Days of the month falling on the same days of the week
   C. Holidays and other events fall on the exact same date each month, each and every year.

The only negative to the calendar is:

- There is no guarantee that a given week day is always seven days from the same week day.

The logical place to start and end a year are the points where the earths hemisphere is maximally tiled toward and away from the sun (i.e., summer and winter solstice). Seasons are already delineated along this axis with the mid spring and vernal equinoxes; and the winter solstice is the start of the new year are already. So it is well reasoned that any new calendar system (taking over from the Gregorian) ought to also start a new year on the winter solstice.

A solstice is where the Earth's tilt creates either a really long day or really long night which occurs within the depths of the 2 most extreme seasons (summer and winter). In other words, the moments of maximum tilt [of the earth's hemispheres] away from the sun are the seasonal solstices:

1. **Summer solstice (a.k.a., summer** *solstice***)** - the longest day of the year in the northern hemisphere and shortest day of the year in the southern hemisphere).
2. **Winter solstice (a.k.a., winter** *solstice***)** - the shortest day of the year in the northern hemisphere and longest day of the year in the northern hemisphere).

An equinox is where the Earth's axis tilt creates a day and night of equal length, which occurs in the seasons which are transitional (spring and fall). In other words, the moments of equal tilt [of the earth's hemispheres away from the sun are the seasonal equinoxes:

1. **Autumnal equinox (a.k.a., fall** *equinox***)** - the day when the sun crosses the celestial equator from north to south, signaling the start of autumn. Similar to the vernal equinox, during the autumnal equinox, the duration of day and night is nearly equal, but it marks the transition to cooler temperatures and the approach of winter in the northern hemisphere, and summer in the southern hemisphere.
2. **Vernal equinox (a.k.a., spring** *equinox***)** - the day when the sun crosses the celestial equator from south to north, marking the beginning of spring. On this day, the length of day and night is approximately equal, and it signifies the start of warmer and more favorable weather conditions in the northern hemisphere, and colder weather in the southern hemisphere.

Equinoxes and solstices mark different points in Earth's orbit around the Sun and are key to understanding the changing seasons. Equinoxes occur twice a year, in March and September. During an equinox, the Earth's axis is not tilted toward or away from the Sun, resulting in nearly equal day and night lengths all over the world. The March equinox marks the start of spring in the Northern Hemisphere and autumn in the Southern Hemisphere. The September equinox signals the beginning of autumn in the Northern Hemisphere and spring in the Southern Hemisphere. Solstices also happen twice a year, in June and December. They occur when the Earth's axis is tilted maximally toward or away from the Sun. The

June solstice, when the North Pole tilts toward the Sun, results in the longest day of the year in the Northern Hemisphere (summer solstice) and the shortest day in the Southern Hemisphere (winter solstice). Conversely, the December solstice, when the South Pole tilts toward the Sun, brings about the longest day in the Southern Hemisphere (summer solstice) and the shortest day in the Northern Hemisphere (winter solstice). In short, equinoxes are about balance between day and night, while solstices are about the extremes of daylight and darkness.

To transition from the Gregorian to the fixed international at the end of a year would require dropping ten days (from January (up to 10 January) to start timing with the fixed calendar correctly. The first fixed calendar year would be started on January eleventh, or the last Gregorian calendar year is ended on December 21st. Also, schedule the adoption of the new calendar to be a year (in the four year leap day cycle) that the winter solstice falls on a Saturday. Thus, there be no need to skip any days of the week.

Table 35. Measurement > Time > Calendar*: The international fixed calendar in relation to the Gregorian calendar dates. Note that the Cotsworth calendar has "Sol" between June and July. Here, the international fixed calendar month prefixes do not align with the month count.*

Month	International fixed calendar	Gregorian calendar STARTS	Gregorian calendar ENDS
1	January	January 1	January 28
2	February	January 29	February 25
3	March	February 26	March 25*
4	April	March 26	April 22*
5	May	April 23	May 20*
6	June	May 21	June 17* (leap day)
7	Sol	June 18	July 15
8	July	July 16	August 12
9	August	August 13	September 9
10	September	September 10	October 7
11	October	October 8	November 4
12	November	November 5	December 2
13	December	December 3	December 30
Non-day	Year Day	December 31	
Leap-day	* One day earlier on leap years; these dates are a day earlier in a leap year		

Table 36. Measurement > Time > Calendar*: An alternative to the month naming in the International Fixed Calendar system. Here, the Roman additions to the calendar have been removed and replace with the months the Roman's took out. The Romans replaced Quintilis (replaced by July) and Sextilis (replaced by August). The 5th, 6th, 7th, 8th, 9th, 10th, and 13th months are all named correctly per their prefix. This is a corrected version of the calendar months with proper prefixes and the repositioning of March at the start of the year, and January following December. Originally in the Roman Julian Calendar March used to be the first month of the year before January and February were added later. Here, January and February will be added to the end of the year, just prior to the last correctly prefixed month of Triember. Of note, January is named after the ancient Roman god Janus of both beginnings and endings, so it could alternatively be placed as the final month of the year (not shown below).*

Month	Rearranged International fixed calendar	Prior to the Gregorian Calendar
1	March	January
2	April	February
3	May	March
4	June	April
5	Quintilis (5th month)	May
6	Sextilis (6th month)	June
7	September (7th month)	Quintilis (replaced by July)
8	October (8th month)	Sextilis (replaced by August)
9	November (9th month)	September (7th month)
10	December (10th month)	October (8th month)
11	January	November (9th month)
12	February	December (10th month)
13	Triember (13th month)	*No 13th month*

1.3.1.7 The Gregorian calendar

A.k.a., The international standard calendar, the inefficient calendar, the early 21st century calendar.

In the Gregorian calendar, which is the most widely used civil calendar system in the early 21st century, a standard year consists of 365 days. Months do not divide equally into days in the Gregorian calendar. In a leap year, an extra day is added, making it 366 days. The Gregorian calendar, the current standard calendar in most of the world, adds a 29th day to February in all years evenly divisible by 4, except for centennial years (those ending in -00), which receive the extra day only if they are evenly divisible by 400. Thus 2000 was a leap year, but 1700, 1800, and 1900 were not.

Table 37. Measurement > Time > Calendar*: The early 21st century Gregorian calendar months.*

Month Number	Month Name	Prefix Meaning	# of days in month
1	January	N/A	31
2	February	N/A	28 / 29
3	March	N/A	31
4	April	N/A	30
5	May	N/A	31
6	June	N/A	30
7	July	N/A	31
8	August	N/A	31

Month Number	Month Name	Prefix Meaning	# of days in month
9	September	7	30
10	October	8	31
11	November	9	30
12	December	10	31

NOTE: *The non-prefixed months in the above calendar are either named after gods, or after Roman Caesars (Julius Caesar for July and Augustus Caesar for August).*

The Gregorian calendar is the most widely used calendar in the world today. It is the calendar used in the international standard for Representation of dates and times: ISO 8601:2004. It is a solar calendar based on a 365-day common year divided into 12 months of irregular lengths.

Table 38. Measurement > Time > Calendar*: The Gregorian calendar quarters are.*

Quarter	End Date	Days in Quarter
Q1	Friday, March 31	90
Q2	Friday, June 30	91
Q3	Sunday, September 30	93
Q4	Sunday, December 31	92

This early 21st century calendar is irrational in the following ways:

1. To evenly split the year into months with equal numbers of days (28 days + 1 non-day), then the calendar should have 13 months, not 12 months.
   A. Months have different numbers of days.
2. Four of the months are irrationally placed considering their numerical indicating prefixes:
   A. "Sept" (in September) is the prefix for 7, and yet, September is the 9th month of the year.
   B. "Oct" (in October) is the prefix for 8, and yet October is the 10th month of the year.
   C. "Nov (in November) is the prefix for 9, and yet, November is the 11th month of the year.
   D. "Dec" (in December) is the prefix for 10, and yet December is the 12th month of the year.

INSIGHT: *Using the Gregorian calendar, people say and believe, that there are 4 weeks in a month, when in fact, February is the only month with exactly 4 weeks*

The Gregorian calendar introduces unnecessary additional cognition and the potential for planning difficulties and mistakes. A useful calendar should follow a simple and straightforward pattern and not add additional complexity and resource requirements beyond baseline.

Using the Gregorian calendar, it doesn't make any sense to say, "Schedule the next meeting for the same time next month." Using the Gregorian calendar, it is not clear what the statement, "the same time next month" means. Calendar planning becomes unnecessarily complex plan when, from year to year, the days of the week for a given date change. Each 'month' is a parameter of production, wherein, there will be variances in production. Differences in production per month mean that optimal production calculations ought include months which are themselves uniform distributed, as in, into 13 'month' time-units of 28 'days' each.

1.4 Other calendar systems

A year is 12 main months, each beginning with the same weekday and composed of 5 weeks. In between every 3 moths is a 1-2 day holiday (for a total of 5-6 holiday days per year), which land near one of the two seasonal equinoxes and two seasonal solstices of each year, and which are not assigned to a weekday or month. The logic for this calendar system is:

- 360 days + 5 days + leap
  - 360 days = (12 months) • (30 days
    - 12 months per year (each with 30 day)
    - 5 weeks per month (each with 6 days)
  - 365 days = ((12) • (30)) + 5 non-days
    - 366 days = (((12) • (30)) + 5 non-days) + leap year non-day/4 years)

Hence, this calendar system has:

1. For a total of 360 days:
   A. 12 months per year.
   B. 5 Weeks per month.
   C. 6 days per week.
2. For a total of 365 to 366 days (as days in an actual solar year):
   A. Plus, 5 non-days to 365 days, plus 1 day on leap years to 366 days; neither of which are part of a month or a day of the week. These days could be put at the end of the year cycle, or scattered throughout the year (and/or aligned with solstices or equinoxes).

1.5 The day and week cycle

The Egyptians passed their idea of a 7-day week onto the Romans, who also started their week with the Sun's day, dies solis.

It is possible to divide months of any number of days into various balanced week periods, for instance:

1. A 28 day month cycle of 13 months could be divided equally into:
   A. 4 Weeks, 7 Days each.
   B. 2 Weeks, 14 Days each.

2. A 30 day month cycle of 12 months could be divided equally into, for instance:
   A. 4 Weeks, 10 Days each.
   B. 5 Weeks, 6 Days each.
   C. 6 Weeks, 5 Days each.
   D. 2 Weeks, 15 Days each.

Table 39. Measurement > Time > Calendar*: The early 21st century calendar days of the standard 7-day week. The names of the standard, conventional days of the week originate from the names of the classical planets from Greek Astrology which are also the named after Greek/Roman gods.*

Day Number	Day Name	Planet Association	God Association
1	Sunday	Sun	Helios/Sol
2	Monday	Moon	Luna/Selene
3	Tuesday	Mars	Ares/Mars
4	Wednesday	Mercury	Hermes/ Mercury
5	Thursday	Jupiter	Zeus/Jupiter
6	Friday	Venus	Aphrodite/ Venus
7	Saturday	Saturn	Kronos/ Saturn

Different calendars that use this standard have the first day of the week starting on different days, usually the first day of a week starts on either Sunday or Monday.

2 The daily-time cycle unit

A.k.a., The daily clock, the daily solar clock, the sun clock, the daily sun clock, the earth-axis solar-oriented clock.

In early 21st century society there two primary unit daily [time] clocks:

1. **The 24-hour clock (a.k.a., military time)**: This clock is known by many names including: Under the 24-hour clock system, the day begins at midnight, 00:00, and the last minute of the day begins at 23:59 and ends at 24:00, which is identical to 00:00 of the following day. 12:00 can only be mid-day. This is the clock unit system universally used the current planetary transportation and logistics system (which has several names, including: Zulu time; Greenwich Mean Time (GMT); and Universal Standard Time).
   A. 00:00 and 24:00 are midnight.
   B. 12:00 is midday.
   C. 23:59:59 is 1 millisecond before midnight.
   D. 00:00:01 is 1 millisecond after midnight.
2. **The midday centric clock (a.k.a., mid-day clock, AM/PM clock)**: This clock is divided into two 12 hour segments. The first 12 hours of the day are signified by "a.m.", which is the acronym for, "anti meridian", which is Latin for, "before midday. The second 12 hours of the day are signified by "p.m.", which is the acronym for "post meridian", which is Latin for "after midday". The two segments are as follows:
   A. 12:00am –11:59am is before midday (AM, ante meridiem).
   B. 12:00pm-11:59pm is after midday (PM, post meridiem).

Given what is known, the 24-hour clock is more logical and more intuitive than a clock with two specific segments (i.e., the mid-day centric clock), which adds an additional unit of measure. The 24-hour clock only has the unit 'Time'. In order to have a complete comprehension of a value given by the 12-hour am/pm clock, two units must be given: the time unit, and the am/pm (after/before midday). The mid-day clock should be done away with entirely in favor of the 24-hour clock in order to increase efficiency and reduce unintentional time clashing.

3 Dating format

As a part of this process there is a more efficient and logical world-wide dating standard: year month day, such as:

- 2024 June 04
- 2024 06 04

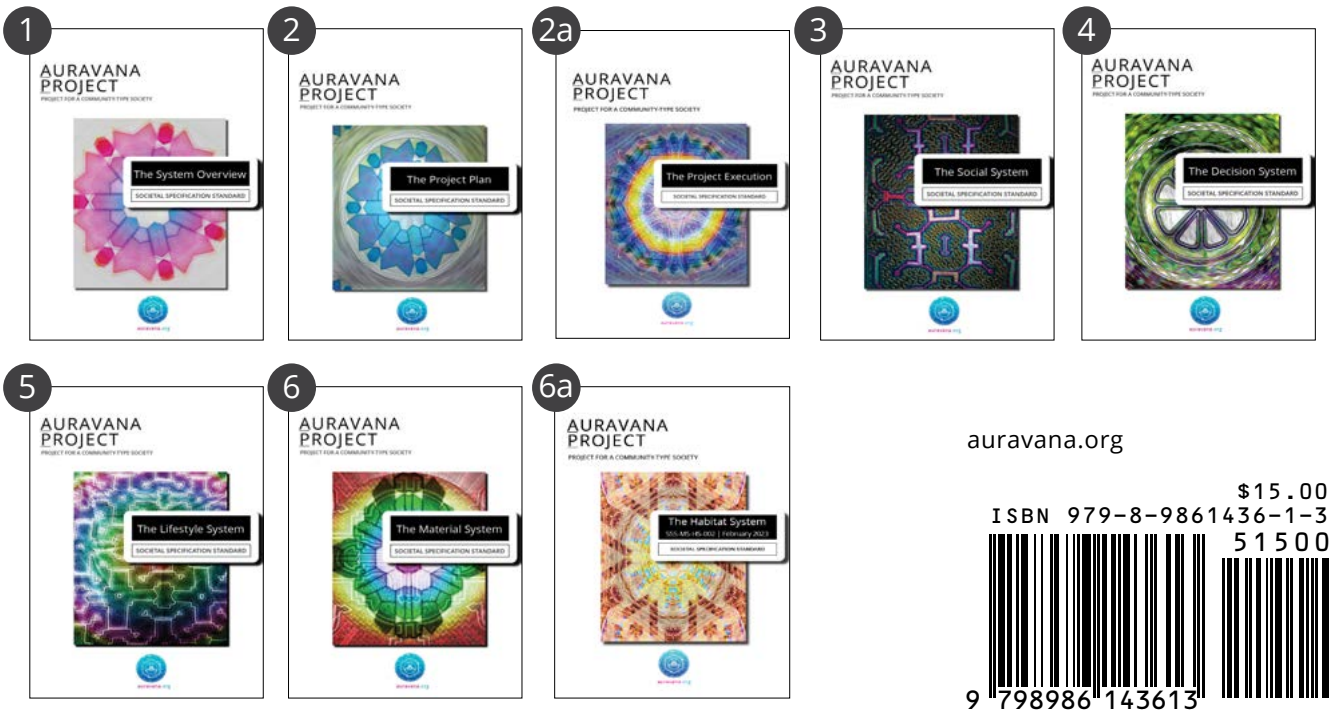
Events, records, and files ought to be organized with the year first, then month, then day. There is already an international standard ISO standard (8601) for this and some countries are already using this standard. This format already works well for organizing computer directories and files.

The Auravana Project exists to co-create the emergence of a community-type society through the openly shared development and operation of a information standard, from which is expressed a network of integrated city systems, within which purposefully driven individuals are fulfilled in their development toward a higher potential life experience for themselves and all others. Significant project deliverables include: a societal specification standard and a highly automated, tradeless habitat service operation, which together orient humanity toward fulfillment, wellbeing, and sustainability. The Auravana Project societal standard provides the full specification and explanation for a community-type of society.

This publication is the Project Plan for a community-type society. A societal-level project plan describes the organized thinking and execution of a socio-technical environment; the operation of community. This project plan identifies humanity's project to create a global community-type society for the fulfillment of that which everyone has mutually in common. This is a planned project for a configuration of society that may be tested in its results at optimally meeting all human life requirements at the global scale. This is a planning and work proposal for an open-source, societal-level project. This document describes and explains a unified approach to actions and results that is likely, given what is known and accessible, to improve all of humanity. This is the plan for societal navigation that specifies an approach, direction, and execution to socio-technical life. The project plan has three core sections: (1) Approach to project execution, (2) Direction of project execution, and (3) Execution of project execution. The standard details the complete, plannable information set for the society's operation, including its approach to action, its direction of action, and its execution and adaptation of action. Herein, these concepts, their relationships and understandings, are defined and modeled. Discursive reasoning is provided for this specific configuration of a project plan, as opposed to the selection and encoding of other configurations. A project plan provides for the formalized project-based development operation of a society, organized in time and with available resources, coordinated to become a societal service system for human fulfillment and ecological well-being.

Fundamentally, this standard facilitates individual humans in becoming more aware of who they really are.

All volumes in the societal standard:



auravana.org

$15.00
ISBN 979-8-9861436-1-3
51500>
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