

NBSOIL marketplace Collaborative platform Initial version

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Executive summary	5
Introduction	6
The user journey	6
Change theory	7
The Triple Performance platform	8
SEO (Search Engine Optimisation)	9
Editorial strategy	11
User experience and organisation of content	11
Links between case studies, training proposals, etc.	12
Communities of practice	13
Community management	13
First results	13
SEO	13
Content	14
Traffic	14
NBSoil Channel	15
Work in progress and development roadmap	16
Next steps to implement the marketplace	16
Content selection	17
Content search and sorting	18
Engage practitioners and soil advisors	19
Conclusion	19





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Executive summary

The document discusses the development and implementation of the NBSOIL marketplace, a collaborative platform initiated under the NBSOIL project. The primary focus is on disseminating knowledge related to soil rehabilitation. The identified target users include farmers, soil specialists, advisors, planning consultancy companies, and decision-makers responsible for land regeneration policies.

The user journey within the NBSOIL project involves stages such as the start of reflection on a soil restoration project, knowledge acquisition, identification of key players, project sizing, and project execution. The document emphasizes the importance of understanding the user's needs and ensuring that knowledge is easily accessible and beneficial throughout their journey.

To address these challenges, the Triple Performance platform, supported by Neayi, is introduced as a key element of the project. This platform is designed to provide access to agroecology knowledge for various stakeholders, including farmers, researchers, advisors, and decision-makers. Key elements of the platform include SEO strategies, editorial planning, content organization, links between case studies and training proposals, and communities of practice.

The document highlights the significance of SEO in ensuring the visibility of the platform on search engines. The editorial strategy of the Triple Performance platform focuses on efficiency, practical information, and a user-friendly structure. The wiki format is discussed as a suitable approach for organizing content in a way that allows users to navigate efficiently.

The platform contains diverse content types, including techniques, case studies, videos, tools, concepts, labels, and more. Links between pages enable users to explore related content easily. Communities of practice facilitate connections between users, fostering collaboration and knowledge exchange.

The document emphasizes the importance of community management for the success of the platform, involving engagement in social networks, regular contact with content contributors, training, and monitoring. The Triple Performance platform has shown promising results over four years, including positive SEO indicators, a growing number of pages and case studies, and increased traffic.

In conclusion, the document outlines the ongoing efforts to internationalize the platform, create versions in multiple languages, and improve the visibility of stakeholders. The NBSOIL project aims to contribute to soil rehabilitation by providing a comprehensive and user-friendly knowledge-sharing platform.









Introduction

The dissemination of knowledge resulting from a research project is a crucial element, which must not be neglected. In reality, the term dissemination is misleading, because it gives the feeling that knowledge is placed in one place and spreads like seeds blown by the wind. For knowledge to reach the intended target, it is necessary to start from the target itself, and follow its user journey: why will they seek out a particular type of knowledge? At what moment? How and through what means? Throughout this journey, the question is how to ensure that the knowledge produced by the research project is among what the user finds, and that it ultimately benefits their project.

The user journey

Before studying a user's journey, it is essential to know the target users. In the case of the NBSOIL project, we partially answered this question when writing the project, but we decided to spend a little more time broadening our thinking in order to understand which actor/knowledge pairs might ultimately have the most impact on the issue of soil rehabilitation.

Among the identified professionals, we considered farmers, soil specialists and advisors (supporting these farmers), planning consultancy companies (project managers and/or advisors for territories and clients), and finally, the decision-makers themselves, in charge of territories. Our reflection led us to believe that soil specialists would be less impacted by the knowledge produced from the project. In fact, the majority of them already know many existing solutions, and know how to seek the proper knowledge in the right place in the case of a new situation. They are also often specialised in certain types of solutions.

Farmers, while often interested in these solutions, do not always have the freedom of implementation necessary to decide on the best solution. They are most often dependent on a political decision at a higher level, which will condition the way in which they will develop their plots, either through aid or through regulatory constraints.

As a result, territorial decision-makers, contractors and those ultimately responsible for land regeneration policies in a given territory are the ones who have the greatest interest in capturing comprehensive, up-to-date and environmentally friendly knowledge.

This does not mean that they are the only target group of our project and our dissemination work, but it is good to keep them in mind when considering their user journey.







6

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This journey can obviously take many forms, but our work, conducted through interviews and surveys, has enabled us to identify the following constants:

- Start of reflection on a soil restoration project
- Knowledge acquisition phase: solutions, associated costs, impacts, adequacy in relation to the context of the problem
- Identification of key players
- Project sizing (time, budget)
- Writing, financing and execution of the project

It appears that the first point of contact with the knowledge produced within the framework of the project will certainly be the result of a simple search on the internet.

Following this research, it will be appropriate to promptly provide the "executive summary" elements on the different possible options (access to summary tables rather than delving into research papers), and, relatively quickly, to provide the capacity to meet professional players (offering training, advice, implementation) on the different solutions (marketplace).

Change theory

Before going into how we decided to provide solutions to the different dissemination needs of the project, it is interesting to make a short digression on the question of change theory.

The issues facing farmers today demand a shift in our approach to assisting them in managing change.

Firstly, changes are now more systemic, involving investments and high risk. Secondly, the ability to change is restricted (by life science knowledge, financial resources, and time). Soils must be restored, as well as biodiversity, or even the quality of our food. There's also the question of the attractiveness of the agricultural sector. All these are factors that influence our food production capacity. In short, it is nothing less than the quality of our lives!

The platform is based on what farmers told us themselves :

- They need specific and applicable information → to increase the level of confidence
- They need to get in touch with peers and experts on each topic before embarking → trigger change

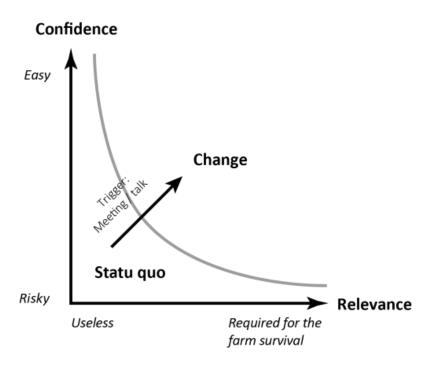




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BJ Fogg Behavioural diagram

The Triple Performance platform

In the context of the NBSOIL project, we therefore planned to rely on the Triple Performance platform, supported by the software company Neayi.

This platform aims to meet the needs for access to knowledge on agroecology subjects, intended for farmers, researchers, advisors and decision-makers.

This platform meets the needs of the project through a certain number of key elements:

- SEO (Search Engine Optimisation)
- Editorial strategy
- Content organisation
- Links between case studies, training proposals, etc.
- Communities of practice

These 5 elements are supplemented by a 6th, which is the animation of the Triple Performance community.







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8

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SEO (Search Engine Optimisation)

SEO is about ensuring that when someone searches for a topic on a search engine, the right page presenting the right knowledge is presented as high as possible in the search engine results.

It is a mix of technical and editorial elements:

- Site indexing: for a search engine to return results on a given site, it must have the ability to read each of the pages of the site. This may seem obvious but has the direct consequence that if access to the site requires any action (such as creating an account, connecting, specific navigation, etc.) then the search engine will be unable to do its indexing work.
- Site speed: Search engines favour sites that respond quickly. A slow site will offer a bad user experience, and will generally correspond to less reputable providers. The speed of the site therefore impacts the order in which the results are displayed.
- Mobile friendly: for several years now, most of the internet traffic comes from mobile phones. Search engines therefore study how each site is displayed on a mobile phone, and promote mobile-compatible sites. Conversely, PDF files which are particularly ill-suited for phones are systematically under-referenced, regardless of their content.
- Sitemap: an important technical element which helps the indexing of a website is to provide a sitemap, that is to say a description of all the pages of the site, with score of importance, update dates, etc. This allows search engines to optimise their indexing work and therefore guarantee that the best pages are not ignored.
- Presence of Open Graph elements: when we share a webpage on a social network (facebook, linkedin, whatsapp, etc.), Open Graph technology is used to display the title of the page, an image and a description which will accompany this link. These elements are not automatic, and must be planned from the start in the technical and editorial organisation of the site (for example, each page must be systematically accompanied by an image). The presence of a consistent description, an illustration and a title that makes sense, according to studies, impacts the average click rate by a factor of 10 compared to a link that would be shared without this information...
- Structure of HTML content: when indexing a content page, search engines perform a semantic analysis of the page. They look at content structure, titles, etc. The more the content respects the HTML structure (order of titles, clear separation between content and form, etc.) the better the information the indexing engine will be able to obtain.
- Consistency between parts: similarly, the search engine will carry out consistency tests between the different parts of the page: the more the title corresponds to the content of the page, the introduction to the summary of the page, etc., the better the user experience will be. It is indeed very frustrating to click on a link trusting the title only to come across a page





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that talks about something else. To go further, it is important to avoid finding structural elements on the page that are not linked to the content of the page. An example: a page which talks about cover crops may contain at the end the logos of the structures which participated in the development of this content. For a search engine, these logos are problematic because they do not correspond to the subject (and the user experience will be bad if next to the search result on cover crops there are images corresponding to logos).

- Reading time and user behaviour: when they have access to user information (through browsers like Chrome, or when sites use traffic analysis solutions like Google Analytics), search engines take into account user behaviour on the different sites to determine the relevance of the result. If a user spends a significant amount of time reading a page, then Google will consider that the page in question is more interesting and therefore it will be displayed higher in the results... Likewise if a user clicks on a search result, watches a video in the page, shares the page to others using their phone - each action is used to characterise the relevance of a page in regard to the user's initial search.
- Pigeon rank: in order to identify referring sites, search engines include strategies that consist of counting the number of third-party sites that reference each result page in return. For example, if 10 sites include a link to Triple Performance's Silphie page, then this page will be placed higher in the results than another Silphie page with equal content which would only be cited 3 or 4 times. This ability to be cited is the result of long and patient work, respectability and relevance of the information found on the site, with a snowball effect as the site is well referenced...
- Seniority: as explained above, good referencing of a site is not immediate, and is the result of a long process of maturation of results. We noticed on our platform that the number of impressions on the Google search engine increased from 30k to 80k per day on average, within 15 months.



Number of appearances of the Triple Performance site per day on the Google search engine





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Editorial strategy

This wiki platform is expected to complement the NBSOIL website by:

- Firstly, providing a space for the 300 NBSOIL Academy participants to collaboratively develop content.
- Secondly, effectively linking NBSOIL to the existing Triple Performance users community (40k a month) and opening Triple performance to English and eventually other languages.

We also expect to eventually coordinate this platform with the others created by other Mission Soil Projects, notably InBestSoil.

We find all types of knowledge on the platform, but always with an accent on "efficiency" - hence the name Triple Performance. This efficiency is evident above all in the organisation of the content with a focus on practical information. For each subject, there is a title that corresponds to the content which will be developed in the article, an introduction summarizing the content of the article, and finally a progression in the article that begins with synthetic data and ends with implementation details, sources and appendices.

At any time, the question is asked when writing content: what is the reader looking for? Is what I am writing useful? Where does the information come from? Is it properly sourced? It involves not writing unnecessary information for the implementation of a solution or anything that could mislead readers.

User experience and organisation of content

When a user arrives on a page following an internet search, the first question they will seek to answer is whether the page corresponds to their search. For a few seconds, they will therefore analyse the page (the title, the structure of the page, the first information it will find there) to determine if this page is worth reading or if it is necessary to return to the search results.

Consequently, it is important that the page gets straight to the point, while having the right level of information. Let's take an example: a user searches on the internet "how to rebalance the acidity of soil". If he comes across a 650-page PDF that covers the subject, but with such a level of detail and in the middle of lots of other knowledge that the user is not ready to assimilate at this stage, the experience will be negative.

Conversely, if he comes across a page which essentially states the importance of balancing the pH of soil without offering concrete ideas, he will be extremely frustrated.





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In practice, users will seek a page that will answer their questions, with some details on the important elements to take into account when discussing the acidity of a soil, and quickly point to other more specific pages on each solution and each concept linked to soil acidity. In reality, users want to maintain control over how they discover knowledge, in the most efficient way possible. They want to be able to enter into the specific as one navigates a map. Therefore, it is important to equip users as early as possible with the key language elements and concepts to fully understand the subject, then give them pointers to more specific pages, leaving them free to choose which information they will read first.

The wiki format is particularly suited to meeting this challenge, because it allows you to create a spider-web organisation of content, which does not depend on an a priori hierarchy. In addition, it is easy to reorganise the content afterward: merge two pages that cover the same subject, split a page if it becomes too long, etc.

Links between case studies, training proposals, etc.

The Triple Performance platform contains pages of different types:

- techniques, practices, solutions
- portraits of farms, case studies and examples of implementation
- videos of webinars and training, with accompanying documents when provided (powerpoint, pdf, etc.)
- · tools and materials
- decision support tools
- various concepts such as inputs, auxiliaries, pests, crops, soil types, etc.
- labels (HVE, Organic, etc.)
- support and advisory structures, etc.
- book summaries
- training proposals
- ...

Each page can reference other pages: for example, in a case study from a farmer on his farm, we can cite the page that explains a particular technique implemented as part of this case study, or the page that describes this or that material used. Thanks to these links, we display the associated case studies at the bottom of the target pages.

So, if we come across a page for a piece of equipment via an internet search, we can easily find all the case studies that use this equipment, but also all the training courses that help using this equipment, and so on.







Communities of practice

Each page also includes a community of practice. The goal is to find and get in touch, as easily as possible, with other farmers, researchers, advisors on each subject. For example, in a case study, it could include the farmer, and the advisor who accompanied him, or in the case of a specific equipment, suppliers or other farmers who use this equipment.

Similar to social networks such as LinkedIn, these communities of practice enable users to go a step further, by contacting other actors, and through an exchange to obtain the information that will help trigger the implementation of its own project.

Community management

Finally, in addition to the technological aspect of the platform, the editorial quality of the content, a final element necessary for the appropriation of the content by the various targeted actors is to manage this community.

This community management (which we could also call content marketing) involves our presence in social networks (for example we contribute regularly to more than 300 facebook groups), through regular contact with all the actors who could contribute content to the platform (technical institutes, etc.), training and monitoring of key contributors, etc.

This community management is a lengthy and expensive work, which bears results after several years!

First results

The Triple Performance platform was launched four years ago now, and continues to continually improve. We already have some initial results which are promising:

SFO

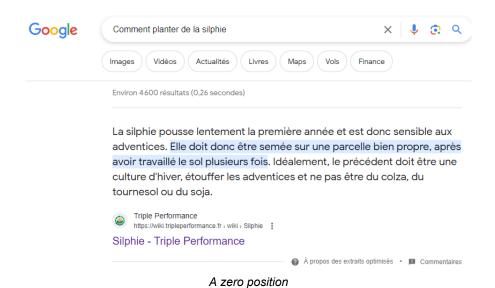
There are three main SEO indicators:

- The number of search results in which the platform's pages appear (currently around 80k per day)
- The average position of the platform's pages in these results (today 13, i.e. on the first page). We also regularly have searches that put the platform in position zero (i.e. before the first search results!), for example "How to plant silphia" in French
- The click ratio, i.e. the number of search results for which the user decided to choose the Triple Performance page among the other results (oscillates between 1.2 and 1.5%, which is close to what other sites have in average)







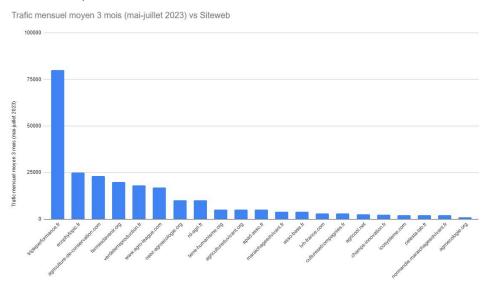


The platform now contains nearly 4000 pages of content, with 500 case studies and approximately as many descriptions of agronomical practices.

Traffic

Content

The platform now has traffic of around 35k visitors per month, which represents 3 times what the main agronomic content platform in France:



Compared traffic via similarweb.com over a 3 month period



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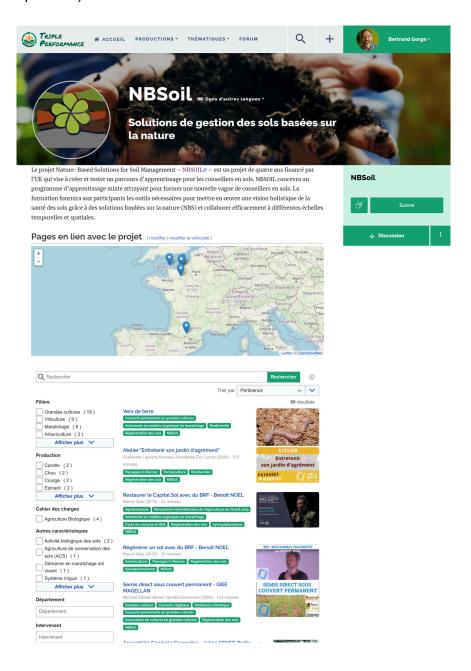
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NBSoil Channel

We have developed a channel specifically for the NBSoil project, which brings together pages related to the subject or which were created specifically for the project (this page exists in all the languages of the platform):







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Work in progress and development roadmap

As part of the NBSOIL project, beyond the content creation which is done with our partners, we have started the internationalisation of the Triple Performance platform. This includes:

- Creating a version in each language of the project, with the possibility of switching from one version to another when there is a correspondence between the pages (for example https://fr.tripleperformance.ag/wiki/NBSoil for the French version and https://en.tripleperformance.ag/wiki/NBSoil for the English version)
- Having the possibility of creating an account anywhere in the world (today we ask for a postal code in France when creating an account)
- Having the possibility of referencing case studies in any territory (today, even if it is possible to create case studies outside France, including with geolocation, display and search by department is limited to France).

We have also developed automatic translation mechanisms for pages that are intended to be found in the different versions of the platform (for example crops, or certain practices), along with a whole series of developments for synchronising the technical aspects of the platform in its different languages.

Furthermore, we have a certain number of projects to improve the visibility of stakeholders (training, advice, service) in connection with each technique described on the platform to enable them to benefit from the excellent referencing of the techniques they support.

Next steps to implement the marketplace

Now that the framework has been established, the next steps are to populate the wiki with content, including pages in all project languages, and to further develop engagement with the targeted audience.

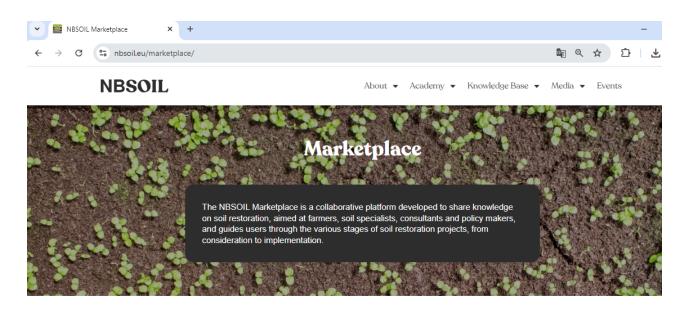
An action plan has been defined to start completing the marketplace with all partners by the end of 2024. New resources will then be added gradually until the end of the project and beyond. Moreover, the marketplace is now included in the NBSOIL website https://nbsoil.eu/marketplace/, taking place in the Resources section.





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The marketplace contains a variety of content types, including techniques, case studies, videos, tools, concepts, labels and more Links between pages allow users to easily explore related content, and communities of practice facilitate connections between users, fostering collaboration and knowledge sharing to support global soil restoration initiatives.

 $The \ market place \ is \ a \ collaborative \ platform \ hosted \ on \ the \ \underline{Triple \ Performance \ platform} \ to \ ensure \ sustainability \ and \ replication \ beyond$ NBSOIL. The platform is currently available in English and French and focuses on the user journey, addressing why, when and how users seek knowledge to ensure it meets their needs and benefits their projects.



View of the marketplace page (NBSOIL website)

Content selection

The aim is to adhere to the editorial line of the wiki platform (as described above): screening practical and effective information³, that can be useful for readers seeking information, whether they are practitioners or soil advisors.

³ Scientific bibliographic resources are also referenced in NBSOIL as part of WP1 (Knowledge Base). The wiki platform focuses on more operational content..





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This information can take various forms:

- Practical guides, technical sheets (PDF documents and/or web pages)

The content covers several types of resources:

- Practical recommendations on implementing practices that promote soil health
- Descriptions of soil health measurement tools
- Collection of practitioner experiences, sharing their practices and testing innovations
- Comprehensive farm profiles
- Descriptions of living lab experiences

Content search and sorting

Several approaches will be used to supply the wiki platform.

- NBSOIL partners are being asked to provide references from their respective countries to populate the marketplace pages in each of the project's languages. The targeted topics are related to the entries of the NBSOIL Academy:
 - Soil health nature-based solutions:
 - Production of organic fertilisers from locally available biowastes. The produced biofertilizers range from common materials derived from anaerobic digestion or composting to the newer biostimulants as hydrolysates of plant and animal proteins, humic substances, seaweed or vegetal extracts, and beneficial microorganisms.
 - Agroecological practices: cover crops for agricultural soils, intercropping, crop rotation, mixed farming, rotational grazing, shift from arable to grassland and agroforestry.
 - Paludiculture for organic soils: peatland rewetting and restoration including grazing by breeds adapted to wet conditions.
 - Management for age and species diversification for forest soils: forest management based on harvesting, thinning, and replanting methods leading to age and species diversification in both commercial tree plantations and natural secondary forests.
 - Bioremediation for urban and industrial soils: use of green technologies to restore soils polluted with PTTE (phytoremediation through stimulation of contaminant decay or phytostabilisation via addition of organic amendments and revegetation).
 - Blue green infrastructure in urban areas: integration of vegetation in urban development, urban agriculture.
 - Feedback from living labs enhancing soil health.
 - Digital tools for soil health monitoring and mapping





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As an example:

The Soil Association will participate in sorting relevant soil health information from the <u>Innovative Farmers website</u>, which documents farmers' feedback from field testing of innovations (sections: Field labs / Knowledge hub / Information for farmers / Information for researchers).

BOKU, as part of task 4.5, has compiled a list of mobile apps for soil health monitoring. Their objectives, descriptions, and accessibility may be published in the Tools section of the marketplace.

2. Resources from European projects related to soil health and associated practices (particularly those under the Soil Mission) will be reviewed and screened for potential inclusion on the wiki platform. Specifically, the PREPSoil project includes a Knowledge Hub. The project managers will be contacted to propose sharing relevant information for the NBSOIL marketplace.

As an example:

The Agromix project focuses on agroforestry practices identified within Nature-Based Solutions that are beneficial for soil health. A Knowledge Hub has been established as part of this project. In agreement with the Agromix website managers, a list of contents was compiled and screened to select the most relevant items for NBSOIL stakeholders. The AgroMix managers are willing to explore the possibility of integrating this information into the NBSOIL platform to avoid losing it with the end of their own project.

Engage practitioners and soil advisors

The wiki platform aims to foster the gathering of communities around common issues through the forum and Q&A features available on each page, which serve as sources of interactivity. Beyond the students of the Soil Academy, existing practitioners and soil advisors will be contacted as much as possible using social media. For this, the partners from each NBSOIL country will be asked to provide references to Facebook groups, LinkedIn, etc., which will be used to promote the NBSOIL marketplace.

Conclusion

Thanks to the Triple Performance platform, we provide the NBSOIL project with a sounding board for the knowledge produced by the different actors, while giving the possibility of going further in its project by connecting with the key actors. This knowledge may also continue to evolve over time with contributions from the community.





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