The CTAO Gender Equality Plan

2022

cta cherenkov telescope array

Foreword

It is with great pleasure that I present you the CTAO GEP developed by the working group elected by our staff and in charge of this project.

Gender equality aims to prevent discrimination. This can be done by, for example, setting aside conscious or unconscious gender bias and ensuring fair and unbiased processes for employees. It is also essential to safeguard and guarantee everyone the same rights and opportunities, in the field of professional and career development.

Our GEP is based on the analysis of internal policies and processes, with the support of the results of the internal survey on gender equality; it establishes a set of measures and indicators with the purpose of improving the gender equity in our organization according to the EU guidelines and the best practices adopted by other organizations.

To achieve a more inclusive workplace, it is important to raise awareness within the CTAO on the topics of gender equality, discrimination, diversity, and unconscious biases. It's a challenging and sometimes controversial process as it can bring to light our biases, but it stimulates personal and professional growth that will help both our project and our staff.

I endorse this initiative and affirm that the CTAO understands and is committed to the proposed plan and that we will be fully engaged in the proposed activities. A successful implementation of this plan can only be achieved if all employees commit to it. Therefore, I invite you to join the activities and promote equity in the workplace to make CTAO a healthy and inclusive work environment.

Heidelberg, 04/05/2022
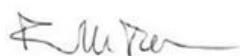**Prof. Dr. Federico Ferrini, CTAO Managing Director**

Table of Contents

1 Introduction

There is growing evidence that promoting gender equality brings positive impact to and benefits the whole organization. Particularly, we can identify positive influence in two main areas: the environment external to the organization and the internal one. In the first case, fostering GE on the workplace will be compliant with domestic and EU regulations and will promote a very positive and modern profile of the organization to the external world. Secondly, at internal level it will ensure well-being, inclusiveness, social dialogue and sense of community, better quality decision-making processes, career management procedures, attraction and retention of talents, maximization of everyone's potential.[1]

Gender Equality and Equity involves everyone - people of every sex and gender, of every country, language, culture and belief, as also stated by the EIGE (European Institute for Gender Equality): "*Some mistakenly understand gender equality as a women's issue only. It is important to highlight that the whole institution benefits from a more open and respectful organisational culture. The well-being of all improves when there is a better balance between work, family and private life.*"[2] GE means that rights, responsibilities and opportunities are the same for everyone and do not depend on gender or sex.

1.1 Definition of Gender Equality Plan

A Gender Equality Plan (GEP) is a detailed plan built on the results of a Gender Audit carried out in a specific institution.[3] In the plan strengths, critical conditions, already existing good practices, and processes are listed together with a timeline to carry out certain improving measures and the key actors of the organization to implement them. Therefore, the GEP is a living document and will change during the years because it will also contain indicators to monitor the situation and the measures adopted. This GEP, in particular, is written for CTAO gGmbH and in future might have a continuation in the CTAO-ERIC (hereafter CTAO). This may lead to changes in the GEP and future releases.

Taking EIGE's recommendations[4] as model for CTAO's GEP, smaller changes were made to adjust the EIGE's areas to the specific case and match them to the current circumstances. As the GEP itself, the areas will adapt to CTAO's evolution. At the present time, these are the foreseen ones:

1) work-life balance and organisational culture
2) gender non-discrimination within departments, leadership, and decision-making roles considering only and always the educational and professional background of the candidate
3) gender non-discrimination in all HR process (recruitment, career progression, salary)
4) further integration of gender equity and non-discrimination in outreach materials and content, and internal and external communications.
5) measures against gender-discrimination, gender-based violence, including sexual harassment

There are four basic minimum requirements for GEP, it must be and have:

- **Public** - a formal document published on the institution's website and signed by the top management, disseminated across the institution
- **Dedicated resources** - commitment of resources and expertise in gender equality to implement the plan
- **Collected data and monitoring tools** - sex/gender disaggregated data on personnel and annual reporting based on indicators
- **Trainings** - awareness raising/training on gender equality and unconscious gender biases for staff and decision-makers

1.2 Objectives and Scope

There is a clear definition by the European Commission that states the aim and scope of a GEP. It consists of a set of actions aiming at[5]:

- conducting audits of procedures and practices to identify gender bias
- identifying and implementing innovative strategies to correct any bias
- setting targets and monitoring progress via indicators

The objective is to create a tool of sustainable change towards a fairer, safer, and more transparent work environment, improving the quality of everyone's work. This tool will change during time according to the situation registered in the repeated audits that will take place at a regular rate.

The measures identified will apply to all CTAO offices and sites.

2 Collected Data

2.1 Methodology

The methodology is based on EIGE[6] tools and guidelines and ISO 30415:2021[7]. Particularly, these points were tackled considering the period 2018 to 2021[a]:

- Analysis of already existing CTAO initiatives and policies.
- Gathering of employees' data on, for example, recruitment and the number of employees in each department (Administration & Director's Office, Project Office).
- Creation of an anonymous survey for employees to have their opinion on gender, inclusion, and discrimination. In this case, it was decided not to include personal data (among them gender) - being the organization still relatively small, the information about gender could have reduced the anonymity of the survey and may have led to the identification of the person taking the survey. However, in the next employees survey and Gender Equality Survey this piece of information will be asked.

2.2 Scope

Objectives will be defined, targets set and actions and measures decided, once gender inequalities and gender bias in internal processes, initiatives, teams and the whole organization are detected. This together with the help of the collected data, EU guidelines and other organizations' best practices. Resources (time, workforce and budget), tasks and responsibilities for each specific action will be allocated and timelines for the implementation of the measures will be established.

2.3 Data Analysis

2.3.1 Policies and initiatives

Inside the organization, there is not a specific policy on gender or diversity and inclusion, but many policies and initiatives mention them. The wording of all documents taken into consideration was analysed to track any improper language usage or to highlight best practices used. In CTAO Code of Conduct, diversity is one of the five core values. As far as the recruitment policy is concerned, it is explicitly written that the panel of interviewers should be as diverse as possible in order to avoid biases and that candidates should be evaluated only in an objective way. Moreover, it's stated that CTAO promotes inclusiveness. The annual talks policy foresees for all employees the mandatory talk with their manager to give a bottom-up and top-down feedback in the most objective way, to set SMART goals and assess the needs. For a better work-life-balance, CTAO grants all employees two days of home office (remote working policy) and, in case needed, even more time. Furthermore,

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[a] This period of time was taken into account because the company began to collect data starting from this period (creation of dedicated HR office). Moreover, the current Managing Director was elected in 2018.

CTAO gives the opportunity to employees to claim school related expenses (up to 75% per year, 290€ maximum a month per child) for children up to six.

As far as initiatives are concerned, four of them were highlighted because mentioning gender or diversity. One outreach activity involves women working inside the organization in STEM roles (*Women of CTA*), they are invited to speak about their work in a dedicated event, created *"as part of the global effort to raise awareness and find solutions to gender inequality and the overall under-representation of women in science."* Many other initiatives of the Communication and Outreach Office, such as *Astrodiversity* and *CTA's Best Practices for Colour Blind Friendly Publications and Descriptions*, try to foster diversity and inclusion by showing the work of different people inside the organization and creating guidelines for people with visual impairment. An additional internal initiative is the Trusted Advisor, who offers a safe place where to express difficulties and discrimination and get a first suggestion on the next steps to take.

2.3.2 Employees' data

Data gathered on the number of employees and applicants per recruitment are sex-disaggregated and not gender-disaggregated because, unfortunately, in the past data were recorded based on sex and not gender, something that can be also tackled as objective in this GEP.

As far as the number of employees is concerned, the current situation is represented by the plots. Overall, in the company the staff is more or less balanced: 42% females vs. 58% males. At a closer look to the different departments, in the more scientific and technical field males (76%) are much more present than female colleagues (24%) and the opposite is true for the Administration and Director's office (f. 65% vs. m. 35%).

In the recruitment processes done during the past years (starting from 2018), it can be stated that, overall, male applicants were the majority (71% vs. 29% females).

Fraction of Applicants to Vacancies
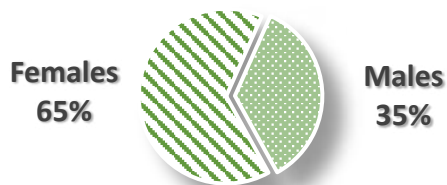

Females 29%   Males 71%

Figure 1 - Distribution of males and females of applicants to CTAO open positions in the period going from 2018 to 2021. Overall, male applicants are the majority.

Sex Distribution of CTAO Staff

Females 42%   Males 58%

Administration & Director's Office

Females 65%   Males 35%

Project Office, Science & Computing

Females 24%   Males 76%

Figure 2 – Distribution of males and females in CTAO Staff (updated to September 2021). Looking at the general graph there is no great disparity but considering the two different offices the gap increases: in scientific and technical roles, males are the majority and in the administration the opposite is true.

2.3.3 Survey

The survey included three sets of statements which will be uniquely identified by the letter Q followed by a number from 1 to 30 in the following. The first group of 10 questions assessed the participants' general views about Gender Equality when applied to the whole social environment, except for question 4 and 5 referring directly to CTAO. A second set of 20 questions assessed employees' opinions on the company's or, in some cases, of previous employers' ability to implement such policies. Both these groups are of the "polar type"[8] while the third set was made up of open questions to collect suggestions and free comments of respondents.

It should be noted that some questions of the first two groups present an inverse "polarity" with respect to others. In other words, an agreement for certain questions may express the respondent's substantial support for gender policies or satisfaction with measures taken by the company so far. In other cases, however, agreement with a sentence can express a critical opinion towards the same policies. For example, in the fourth question of the second group ("*You have experienced in your past or present workplace any kind of gender-based discrimination*"), an agreement expresses a critical view of CTAO's ability to apply policies supporting gender discrimination, while an agreement with the first question ("*CTAO is able to meet different work-life conciliation needs of its staff regardless of gender*") shows a certain liking of the policies applied so far.

It should be considered that any statistical analysis of the responses, although attempted, cannot fully catch the whole complexity of the staff's response to the topic. Moreover, the number of responders is limited to come to general conclusions.

Questions		Answers distributions						
GROUP A: PERSONAL OPINIONS ABOUT GE	Context	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	No idea	SA A N D SD NI
A1. GE means: equal rights, responsibilities and opportunities for everybody.	Society	75.0%	17.9%	3.6%	0.0%	3.6%	0.0%	
A2. GE is an important topic for everyone.	Society	60.7%	28.6%	3.6%	7.1%	0.0%	7.1%	
A3. GE is an important topic for transgenders only.	Society	0.0%	0.0%	3.6%	25.0%	71.4%	25.0%	
A4. GE is an important topic for women only.	Society	3.6%	0.0%	10.7%	25.0%	60.7%	25.0%	
A5. GE is an important topic for CTAO.	CTAO	42.9%	32.1%	17.9%	3.6%	3.6%	3.6%	
A6. GE can bring benefits to CTAO.	CTAO	53.6%	32.1%	10.7%	3.6%	0.0%	3.6%	
A7. Only women experience gender-based discrimination.	Society	0.0%	7.1%	3.6%	53.6%	35.7%	53.6%	
A8. Only men experience gender-based discrimination.	Society	3.6%	0.0%	0.0%	46.4%	50.0%	46.4%	
A9. Everyone can experience gender-based discrimination.	Society	50.0%	35.7%	10.7%	3.6%	0.0%	3.6%	
A10. There are structural obstacles in scientific careers related to gender.	Employers	14.3%	46.4%	7.1%	7.1%	7.1%	7.1%	
GROUP B: PERSONAL OPINIONS ABOUT CTAO/EMPLOYERS APPROACH TO GE	Context	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	No idea	SA A N D SD NI
B1. CTAO is able to meet different work-life conciliation needs of its staff regardless of gender.	CTAO	21.4%	42.9%	7.1%	10.7%	3.6%	10.7%	
B2. In the working groups I'm involved in, work is allocated fairly, regardless of gender.	CTAO	14.3%	50.0%	25.0%	3.6%	3.6%	3.6%	
B3. My colleagues/managers are responsive to my needs when I have caring responsibilities, e.g. medical appointments, meeting with child's teacher, a sick child etc. regardless of my gender.	CTAO	50.0%	32.1%	7.1%	0.0%	3.6%	0.0%	
B4. You have experienced in your past or present workplace any kind of gender-based discrimination.	Employers	21.4%	32.1%	10.7%	25.0%	10.7%	25.0%	
B5. Everybody has the same rights in CTAO regardless of gender.	CTAO	32.1%	28.6%	21.4%	3.6%	7.1%	3.6%	
B6. Your colleagues would treat you differently had you another gender.	Employers	14.3%	25.0%	25.0%	10.7%	10.7%	10.7%	
B7. Your gender is well represented in decision making positions within your organization.	CTAO	17.9%	21.4%	25.0%	17.9%	17.9%	17.9%	
B8. Gender influences career opportunities.	Employers	17.9%	46.4%	25.0%	0.0%	7.1%	0.0%	
B9. Your gender influences your job position.	Employers	7.1%	28.6%	39.3%	14.3%	10.7%	14.3%	
B10. I believe everyone - regardless of gender - is paid the same rates for performing similar work within this organization.	CTAO	0.0%	28.6%	10.7%	7.1%	10.7%	7.1%	
B11. My salary reflects my experience and skills, independently of my gender.	CTAO	10.7%	32.1%	28.6%	7.1%	10.7%	7.1%	
B12. My organization makes fair recruitment decisions, based only on merit.	CTAO	7.1%	21.4%	21.4%	21.4%	17.9%	21.4%	
B13. Women and men have equal access to training in this organization.	CTAO	28.6%	39.3%	0.0%	3.6%	3.6%	3.6%	
B14. Sexual orientation is not a barrier to success in my organization.	CTAO	21.4%	42.9%	10.7%	0.0%	0.0%	0.0%	
B15. CTAO has been doing something in the past to foster gender equality and inclusivity in the company, particularly in the Project Office.	CTAO	3.6%	17.9%	17.9%	7.1%	10.7%	7.1%	
B16. CTAO has already taken action in the past when gender-based discrimination occurred.	CTAO	0.0%	0.0%	10.7%	10.7%	10.7%	10.7%	
B17. My organization encourages respectful workplace behaviours.	CTAO	17.9%	42.9%	14.3%	14.3%	10.7%	14.3%	
B18. My organization uses inclusive and respectful images and language.	CTAO	17.9%	50.0%	21.4%	0.0%	3.6%	0.0%	
B19. Policies on employee protection, human rights and equal opportunities could contribute to improve GE in CTAO.	CTAO	28.6%	46.4%	17.9%	3.6%	0.0%	3.6%	
B20. There is already GE in our company.	CTAO	14.3%	14.3%	39.3%	10.7%	10.7%	10.7%	

Table 1 – A total of 28 people out of 43 participants (65%) answered to the survey. The intensity of the color of the cells with the answers is proportional to the percentiles, with darker color indicating highest values and the chart on the right graphically showing the distribution of answers question by question. Note how the dispersion of opinions is more pronounced for the second group of questions than for the first.

2.3.3.1 Group A: Opinions about GE

This group of statements focuses mainly on the respondents' opinion about the relevance of the GE topic and its applicability to a particular gender. Except for questions A5 and A6, which deal specifically with CTAO, and A10, concerning in general the career opportunities, the context is that of society as a whole. In particular, a large majority seems to agree that all genders can benefit from gender-responsive policies (see questions A3, A4, A6 and A7). With the noticeable exception of A10, where responses are more equally distributed, all responses to this group of statements express general agreement, with peaks of up to 80%, with the need to apply a gender policy.

A significant parameter is the number of "no idea". It must be pointed out the presence of many "no idea" responses only for A10, which refers to the general obstacles that can be met in the scientific world *("There are structural obstacles in scientific careers related to gender")*. This could be attributed to the practical difficulty some respondents have in fully understanding the difficulties experienced by genres other than their own.

2.3.3.2 Group B: CTAO/Job Market approach to GE

All in all, the results of this group of questions show a discreet satisfaction with the CTAO's ability to facilitate integration and career progression and no unresolvable problems in the treatment of different genders, although much can still be done to improve the situation. In particular, question B3 (*"My colleagues/managers are responsive to my needs when I have caring responsibilities, e.g. medical appointments, meeting with child's teacher, a sick child etc. regardless of my gender"*) with 82% among agreement and strong agreement, shows that gender differences are not seen as a relevant problem by a substantial majority of CTAO staff.

In some cases (B4, B6, B8 and B9) the questions refer not only to CTAO but also to previous work experiences, if not to the whole labour market. In this case the response of staff is more varied and should be considered question by question.

Remarkable is the case of question B5 (*"Your colleagues would treat you differently had you another gender"*), where, adding up the answers expressing agreement or great disagreement, it results that only 39% believes that their gender does not affect their relations with colleagues. B9 (*"Your gender influences your job position"*) also expresses a similar opinion on this subject, even though B14 expresses the feeling that the vast majority of employees (more than 64%) there are no substantial barriers to gender-related career progression in CTAO.

Also important is to note the large number of "no idea" answers to some statements, particularly B16, B17 and B20, probably expressing the company's inability to make explicit its policies.

2.3.3.3 Group C: Open Questions

As far as the open questions are concerned, 65% of employees contributed with their comments and felt free to share their ideas, which is already a good indicator of psychological safety. Many actions proposed in the table in the next section come from the

open answers given. For example, it is clear to many that evaluations, recruitment and processes in general have to be as neutral and objective as possible, i.e., no discrimination, particularly based on gender but not only, has to happen. This is linked to respect that must be shown for everyone regardless of non-relevant factors (e.g., age, nationality, etc.). Different colleagues asked for policies, actions, guidelines and regulations to foster gender equity and avoid discriminations in general. In fact, it was wished by some to extend the gender topic to the broader area of diversity and inclusion, thus bringing in many other different intersectional factors. Flexibility (smart working, flexible working hours, etc.) is also very important since it is essential for work-life balance. To carry out all these initiatives, communication and professionalism are, of course, paramount according to most of the responses.

3 GEP - Action Plan

As written in previous chapters, the following actions will be developed and concluded by end 2022, before the CTAO-ERIC will be in place.

GEP area[2]	Measure	Actions	Objectives	Indicators	Targets (people)	Responsible
All	Use gender-sensitive and gender-neutral language	• Routine revision of internal and external communications, outreach material, images and webpage from a gender equity and diversity standing point. • Guidelines on how to write in an inclusive way.	Make sure that language is inclusive at all levels of the organization.	• At the end of 2022, the mentioned documents shall be inclusive, fair and equitable. • Release of guidelines on inclusive language. • Share at least 1 or 2 tools that could help to improve the language of the written texts.	• All	GEP Working Group & Colleagues
4	Expand the CTAO's Astrodiversity Project	• Foster further participation of CTAO members to increase manpower on activities. • Track public (gender-disaggregated) before and after Astrodiversity initiatives, when possible. • Follow-up after an event with surveys, when possible (for example, with a free "Test for implicit biases" to be performed before and after the events). • Increase activities at school or within the educational systems.	Raise awareness on gender inequity and the overall underrepresentation of women in science.	• Number of participants. • Number of interactions with announcements and social media publications. • Results from surveys, when available.	• Children and young people • General public	Outreach, Education & Communication Office

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[2] See list at page 4 of GEP areas

GEP area[2]	Measure	Actions	Objectives	Indicators	Targets (people)	Responsible
5	Reduce and avoid incorrect behaviors based on gender biases.	• Improve the current Code of Conduct to make it more inclusive • Write an inclusive etiquette and guidelines to approach cases of discrimination. A dictionary on gender and other factors that can lead to discriminations will be included too.		• Inclusive Code of Conduct • Guidelines, etiquette and dictionary released	• All	• GEP WG • Trusted advisor
4-5	Generating and stimulating sensitivity to issues related to gender equity.	• Quarterly Newsletter with at least three articles on gender topic and other characteristics that can lead to discrimination + three articles from the "Building from Diversity" series. • D&I Coffee Break every 2 months. • Training (Knowledge Sharing): Building an inclusive culture - Language usage (explanation of the guidelines for inclusive communication and practical session).	• Awareness-raising & empowerment – the majority of the employees recognizes and contributes to the achievement of the objectives. • Employees feel more included and valued.	• One dedicated training session (Knowledge Sharing). • Number of people stating in the employees' survey that they feel included and welcomed in the organization increases. • Number of employees that disclose demographic data in the employees' survey (e.g., location, office, gender, etc.) increases.	• All	• GEP WG, HR & others
1	Working hours for better work-life balance.	• Availability of flexible working times arrangements (if possible and compatible with the activities). • Improve current Remote Working Policy.	Improve employees' work-life balance.	• Number of people stating in the employees' survey that they feel there is enough flexibility increases. • increase the flexibility of employees' working hours in compliance with the needs of the company and its legal framework	• All	HR & others

GEP area[2]	Measure	Actions	Objectives	Indicators	Targets (people)	Responsible
2	Constant check on gender information and state of the art.	• Constant gathering of gender-disaggregated quantitative and qualitative data. Analysis of these data in a dedicated report to monitor gender and diversity state of art in the organization and allow further data collection. (The data collected will not be personal nor referred to a single person, they will be anonymous.)	Improve collection of gender-disaggregated data and improvement of data analysis and indicators setting.	More data are collected leading to more correct measures and indicators.	• All	GEP Working Group & HR

4 Conclusions

The GEP of the CTAO is a plan with the aim to implement actions and projects to reduce gender inequalities and to enhance diversity with regard to, for example, age, culture, physical and mental disability and multilingualism among others.

As a multinational research infrastructure, it is a responsibility to grant all professionals working in the CTAO an environment free from prejudices and stereotypes, where individuality and originality are valued.

Limited at this stage to the CTAO internal organization, the GEP has been based on the analysis of already existing initiatives and policies, the available personnel data and the opinions collected through a dedicated employees' survey. By investigating the ideas of colleagues on GE, many points of view came out. First, the majority regards gender equity as a paramount topic and thinks that D&I is equally important too, which is a very good signal since the European Union, society and other organizations are moving towards an always more inclusive environment. Second, even if within the company no severe discriminations happened, the situation can be improved and there is the will to do so.

The GEP is a tool designed to encourage a cultural change. Its aim is to continue building an honest and communicative work environment where people are treated equally and do not experience any discrimination. Trust, sense of belonging and shared goals should be at the core of the organization to enable it to grow.

The measures in this document intend to give continuity and coherence to the initiatives already being pursued by the CTAO. Moreover, the actions listed in the GEP are meant to overcome the obstacles and enhance diversity taking inspiration from other organizations with similar characteristics and objectives. In particular, the measures and objectives identified together with the help of colleagues, regard mainly, but not only, three macro-areas – internal and external communication (inclusive language), activities (trainings and outreach events), organization and policies (work-life balance and recruitment).

The GEP is a living document and, as such, will be constantly updated and checked by the CTAO GEP WG in a continuous improvement process. This will grant that all established measures are implemented, together with the support and advice of all personnel.

5 Abbreviations

CTAO	Cherenkov Telescope Array Observatory
GE	Gender Equality
GEP	Gender Equality Plan
GEP WG	Gender Equality Plan Working Group
EIGE	European Institute for Gender Equality

6 References

[1] [Rationale for gender equality change in research and higher education institutions | European Institute for Gender Equality (europa.eu)](#)
[2] [GEAR action toolbox | European Institute for Gender Equality (europa.eu)](#)
[3] [What is a Gender Equality Plan « Plotina - Promoting gender balance and inclusion in research, innovation and training](#)
[4] [Gender equality in research and innovation | European Commission (europa.eu)](#)
[5] [A collection of European Reasearch Area Communication from the EU Institutions](#)
[6] [Gender Equality in Academia and Research, EIGE](#)
[7] ISO 30415:2021: Human Resource Management – Diversity and Inclusion
[8] Sadock, J., Zwicky, A., Speech act distinction in syntax, in Shopen, Timothy (ed.), Language Typology and Syntactic Description, 155-196.

About the GEP Working Group

The members of the GEP WG applied to become part of the task force and dedicate themselves to the important task of writing the GEP with the objective to promote gender equity within the company. They have been elected by all colleagues to work on the plan. The following people are the members of the GEP WG:

Paolo Calisse, CTAO North Site Manager
Sara Cavallo, Legal Officer
Eugenia Gatti, HR Specialist
Roberta Zanin , Project Scientist

Meeting on a biweekly basis but always keeping a continuous communication, they identified a roadmap to be followed to reach their goal based also on the guidelines defined by the European Commission. Everyone inside the organization contributed and shared their ideas through a dedicated survey.

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