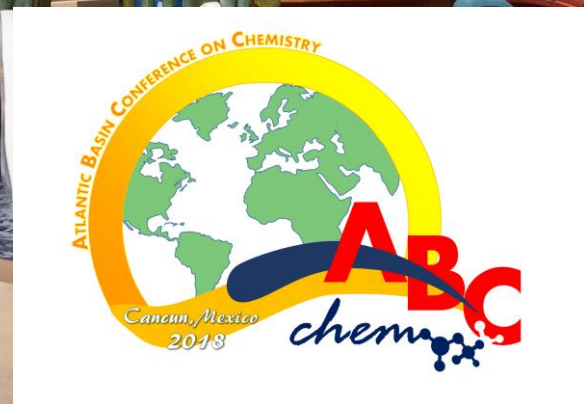


# ABCChem January 2018



# Outcome

- 228 Registrations
  - 113 full registrations
    - 70 Members
    - 31 Complementary
    - 7 Non-members
    - 5 Staff
  - 115 students
- 22 Countries of Origin
- Approximately 50 non-author registrations (20%)
- Small surplus



**EuChemS will bid to host the next ABCChem in Crete in November, 2021**



## International year of the Periodic Table

### Update and progress



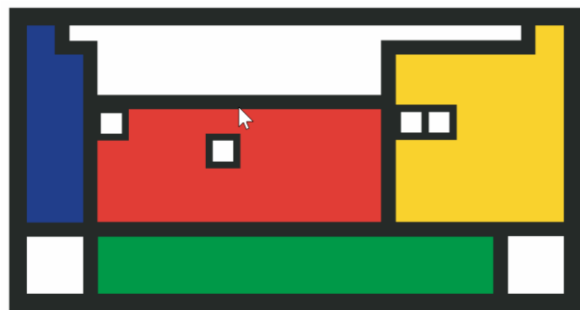
United Nations  
Educational, Scientific and  
Cultural Organization



International Year  
of the Periodic Table  
of Chemical Elements

LOGO available also in  
Chinese, Arabic, Russian,  
French, Spanish

Jan Reedijk



Steering Committee

Pilar Goya

David C-H

Wolfram Koch

Robert Parker

Eckart Ruehl

IUPAC

EuChemS

Member Societies

Jan Reedijk

Projects

Saskia van der Vies



Jan Apotheker

David C-H

Ilka Parchmann

Brigitte van Tiggelen

Yacintha Vermeer

Target Audience

## Selection of worldwide events in 2019, as known by Aug. 2018

- Opening ceremony for the International Year of the Periodic Table of Chemical Elements **January 29, 2019** at the UNESCO premises (room of over 1000 seats, available). Budget needed for speakers, security, reception, etc. is being raised.
- Special Symposium during IUPAC100, Paris: The Periodic Table at 150 (organized by IUPAC100 in July).
- Other activities of IUPAC100 related to Periodic Table, like: the PT challenge; PT of Young Chemists (announcement of 8 winners of an element name each month),
- **Murcia, Spain: National symposium at Periodic Table wall; February 11-12, 2019, and extended to International (Women in Science)**
- **EuCheMS Inorganic Chemistry Conference EICC-5, St.Petersburg, June 2019**
- 51st International Chemistry Olympiad in Paris, July 21-30
- **D. Mendeleev Congress on General and Applied Chemistry dedicated to the International Year of the Periodic Table, Russia, St Petersburg, Sept. 9-14, 2019** Brigitte van Tiggelen
- Closing ceremony, December 2019; venue: **Japan**.

# Opening ceremony planning Paris (at UNESCO), Jan 29, 2019 (update Aug 23)

- Opening and welcome addresses (founding organizations; UNESCO, major sponsors)
- Four short lectures of eminent scientists; suitable for a general audience (Feringa, Poliakoff, Van Dishoeck, Oganessian)
- Short presentations of Junior scientists from around the world
- Exhibition at UNESCO building starting 1 week before and ending 1 week after the opening; the exhibition may contain:
  - a) **formats of the periodic table between 1969 and 2019;**
  - b) interactive periodic table with computers/smartphone with a focus on future availability, sustainability and use in practice
  - c) how new elements are being discovered (focus on last 10 or so)
  - d) life and work of Mendeleev
  - e) **Video game?**
- (In separate room): exhibitions and presentations for up to 500 Paris school children, organized by 1001inventions; [www.1001inventions.com](http://www.1001inventions.com)
- Reception





# Empowering Women in Chemistry: A Global Breakfast Event

When: **Tuesday February 12 2019** (Murcia)

## Highlights:

- Hear about inspirational women chemists
- Discussion on career progression
- Opportunity to network with other women
- Roundtable discussions
- Find out about existing networks in your region

## AND

- Interactive skype session with other breakfasts
- Social media feed (Twitter, Instagram)
- Hastag **#iupac100**

Sweden



Kuwait



Paraguay



Brisbane



## Periodic Table of Younger Chemists

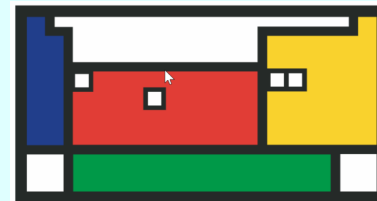
### **Criteria for nomination (taken from the website):**

Nominees must be under 41:

*Actively working in one or more of the following areas:*

- Scientific topics relevant to the United Nations Sustainable Development Goals
- Increasing the public appreciation and understanding of chemistry
- Fostering diversity in the chemical enterprise
- Improving chemistry and science education for students
- Advancing interdisciplinary and international collaboration in chemistry research

# Time to nominate more young Chemists!



- *Be aware that nominations for new candidates, to be awarded an element name, remain possible until early 2019.*
- *Sept 1, 2018 is the deadline for the candidates of the next 8 elements:*  
*See:*  
*<https://iupac.org/100/nominate-young-chemist/>*

Steering Committee

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David C-H

Wolfram Koch

Robert Parker

Eckart Ruehl

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Projects

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Yacintha Vermeer

Target Audience

# EuChemS Projects



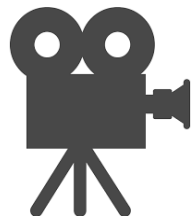
*Women in their element. The Historic Role of Female Scientists in the (Pre)History of the Periodic Table* edited by Annette Lykknes and Brigitte van Tiggelen.



*Setting their Table: Women and the Periodic Table of Elements.* Murcia, Spain, 11-12<sup>th</sup> Feb.



EYCN Video Competition (Yacintha Vermeer)



Video Game

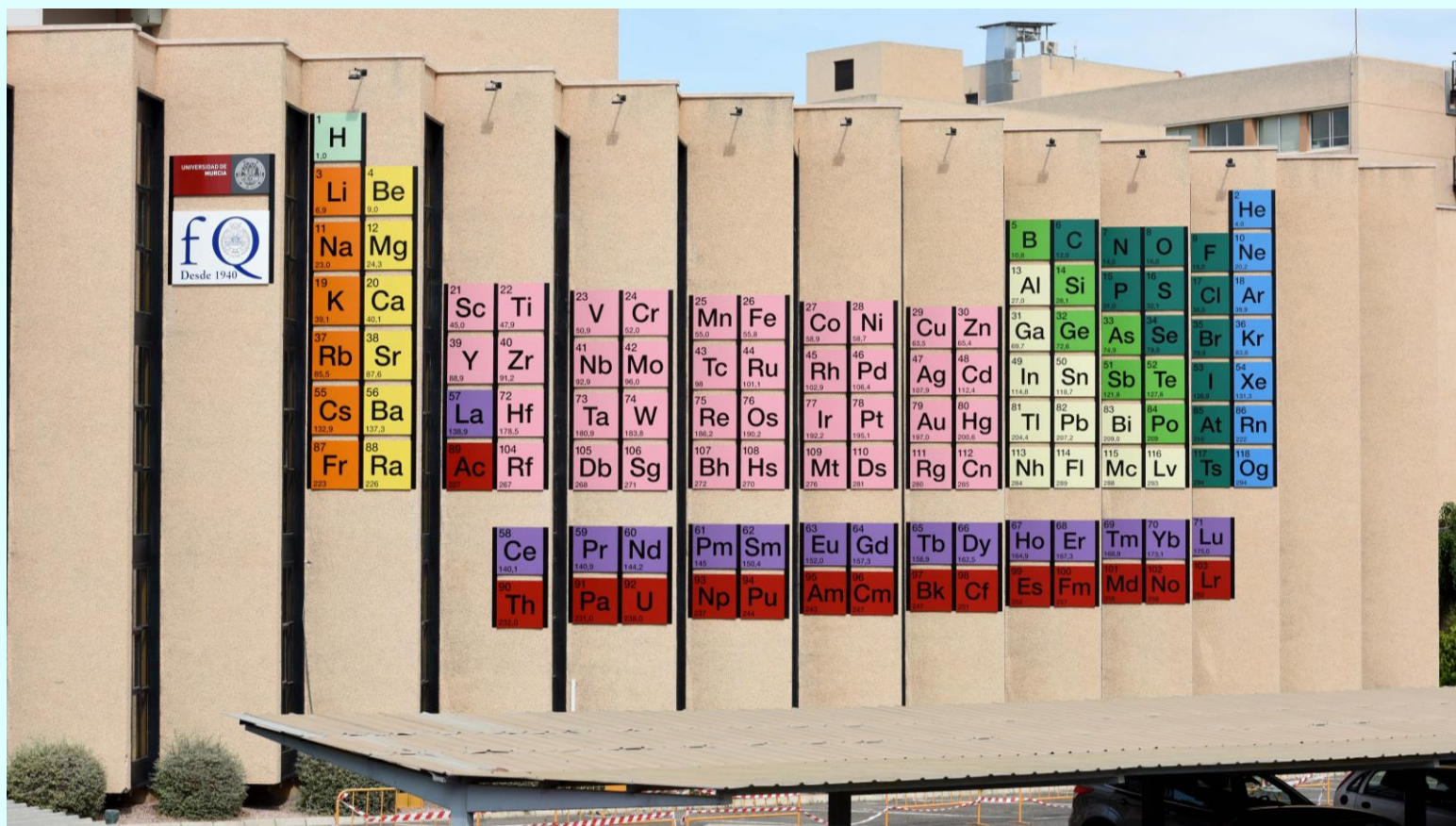
A colorful periodic table of elements, titled 'PERIODIC TABLE OF THE ELEMENTS', showing various chemical symbols and their corresponding elements.

Periodic Table for Schools



# Setting their Table: Women and the Periodic Table of Elements. Murcia, Spain, 11-12<sup>th</sup> Feb.

*Coincides with Global Breakfast, Empowering women and girls in chemistry*



# Video Game

Use chemical solutions to puzzles to collect elements and groups of elements

Periodic Table Game First playable demo



oxygen - 62%



2:03 / 6:50



# Periodic Table for Schools

## **Task Group**

Saskia van der Vies, Christophe Coperet, Nicola Armaroli, Jelena Lazic, Alex Schiphorst, David Cole-Hamilton (Chair) - assisted by Elenea Lenci, Katarina Josefowska,

## **Sub-group “IYPT2019-EuCheMS”**

Jan Apotheker (Chair), Brigitte van Tiggelen, Ilka Parchmann, Jacintha Vermeer, David Cole-Hamilton

Input from Jan Reedijk (IUPAC)

**Special Thanks** Suzanne Issa, Reprographics, St. Andrews

# Background

## Proposal

To put a Periodic Table in every age-appropriate class room in Europe during 2019, the International year of the Periodic Table

- Member Societies were polled at the GA in Rome and *via* a questionnaire
- Periodic Table would be different from usual and feature availability and vulnerability
- 40 % response to questionnaire; 80 % in favour
- Should be viewable on a mobile phone or as a wall poster
- Task Group set up in Bern to work up the idea and report back





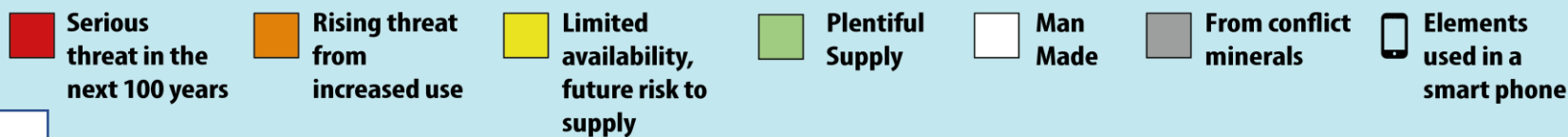
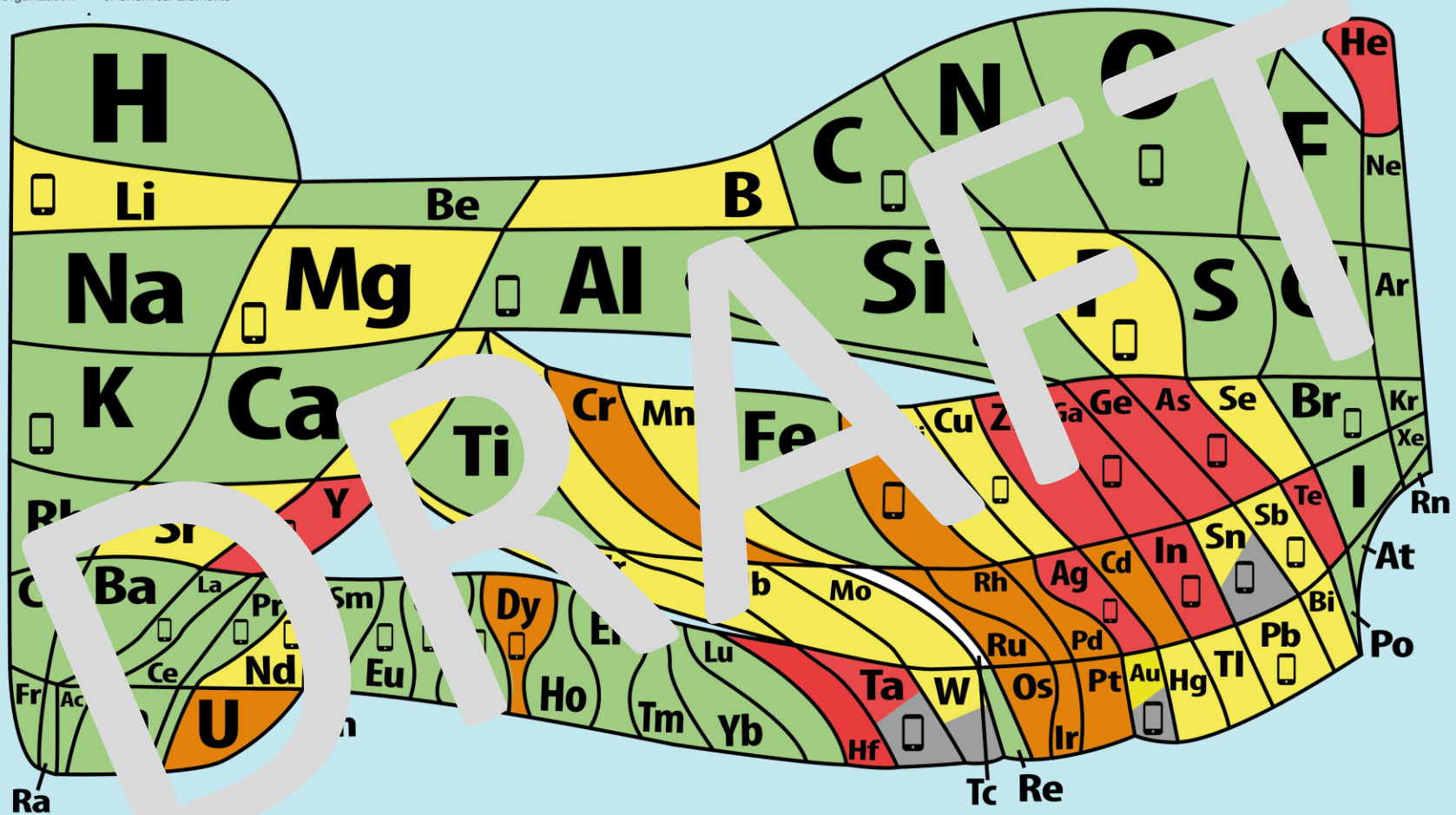
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Cultural Organization



International Year  
of the Periodic Table  
of Chemical Elements

# The 90 natural elements that make up everything

## *How much is there? Is that enough?*



Sponsor's  
Logo

Read more and play the video game [www.euchems.org/IYPT](http://www.euchems.org/IYPT)

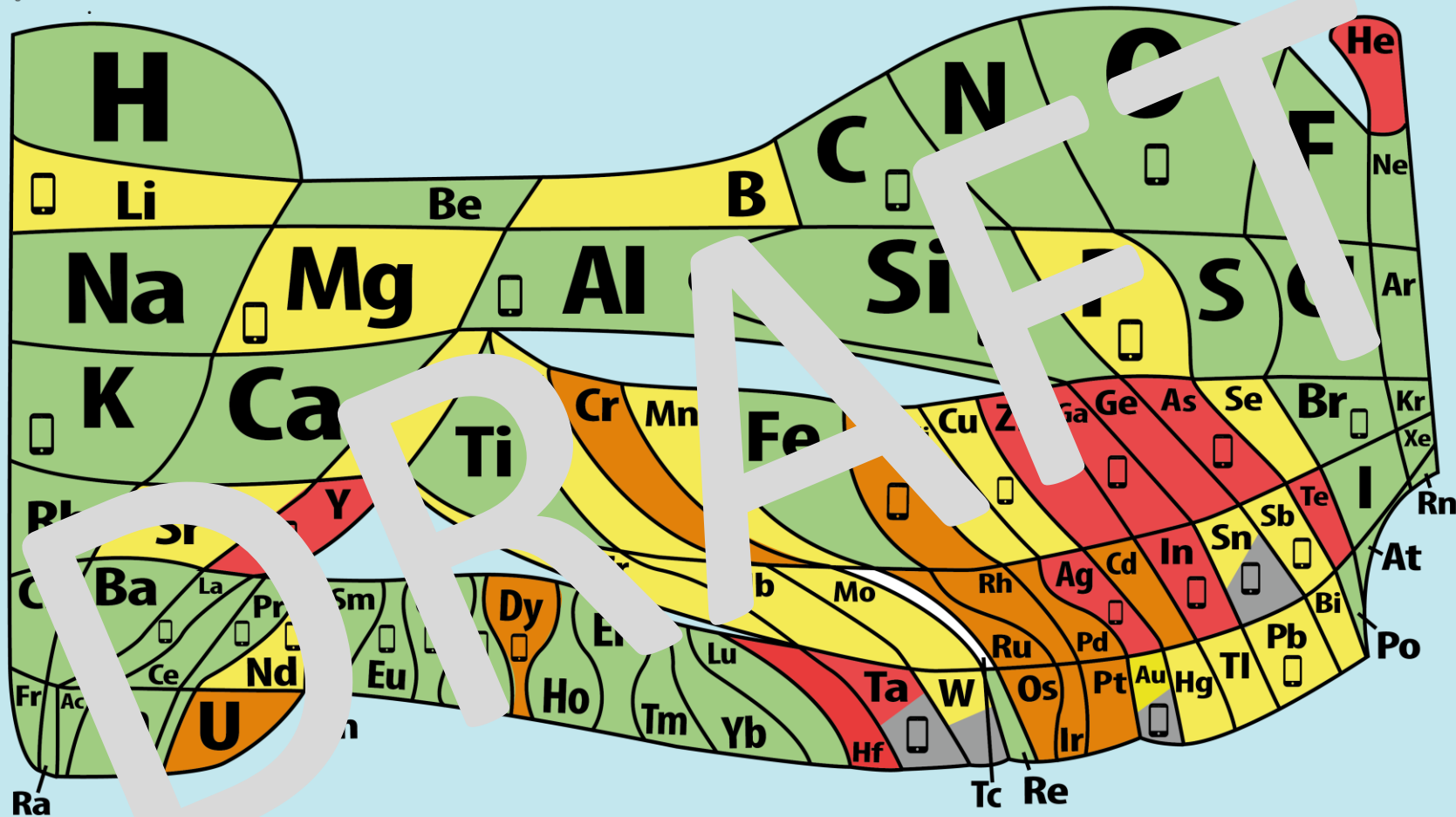








United Nations  
Educational, Scientific and  
Cultural Organization



2019  
International Year  
of the Periodic Table  
of Chemical Elements

# I 90 elementi chimici e la loro disponibilità relativa sulla Terra. Ci basteranno?



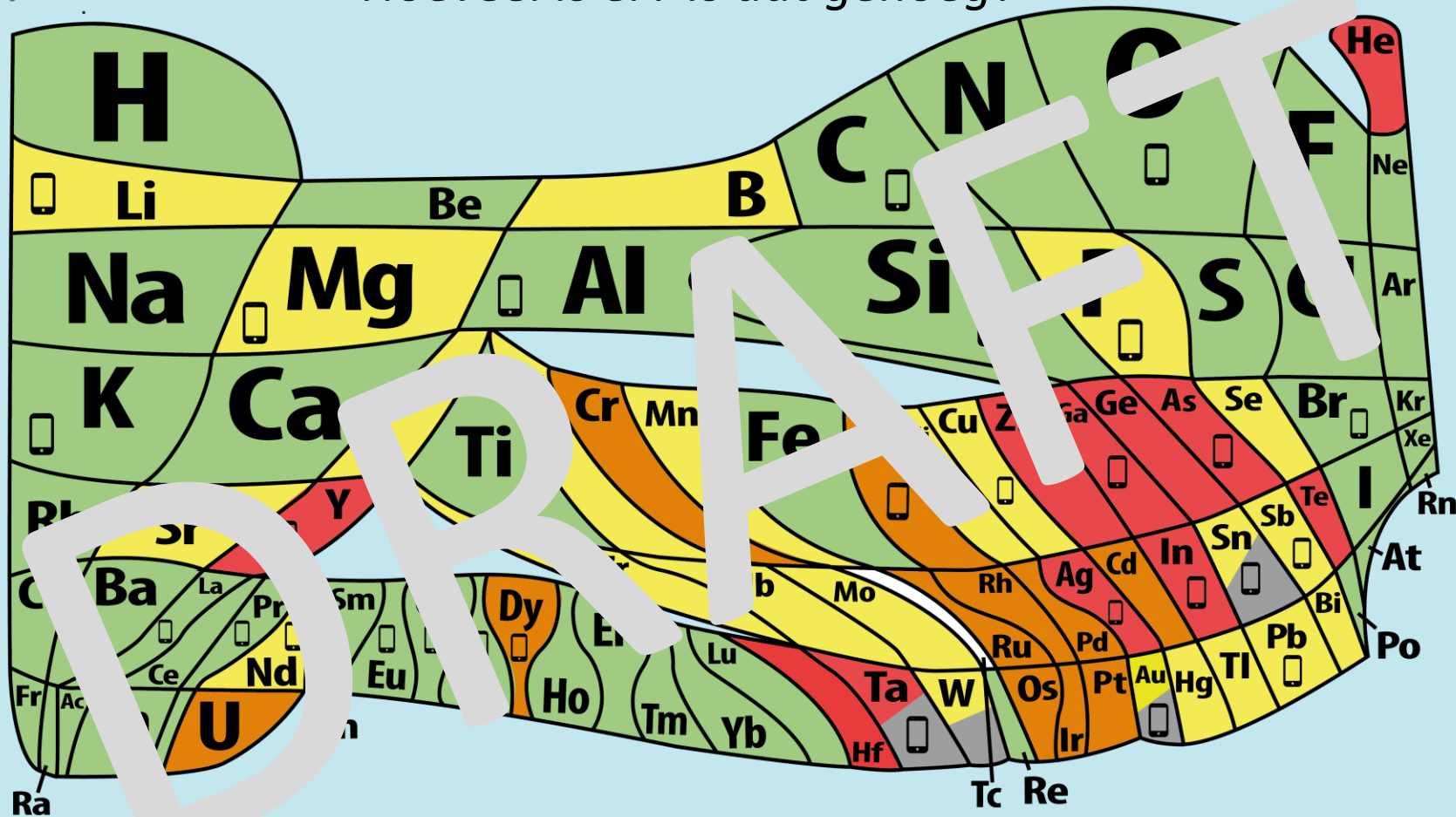
-  A grave rischio entro 100 anni
-  Sempre più a rischio per il crescente utilizzo
-  Disponibilità limitata, a rischio in futuro
-  Di sintesi
-  Da "minerali insanguinati"
-  Elementi che si trovano negli smartphone

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Scopri di più e gioca su: [www.euchems.org/IYPT](http://www.euchems.org/IYPT)

# De 90 (natuurlijke) elementen waaruit alles bestaat

*Hoeveel is er? Is dat genoeg?*



- Ernstige  
bedreiging in  
de komende  
100 jaar
- Verhoogd  
gevaar door  
toenemend  
gebruik
- Beperkt  
beschikbaar,  
levering in de  
toekomst niet  
gegerandeerd
- Synthetisch
- Elementen  
uit conflict-  
gebieden
- ☎ Elementen  
gebruikt  
voor de  
smart phone



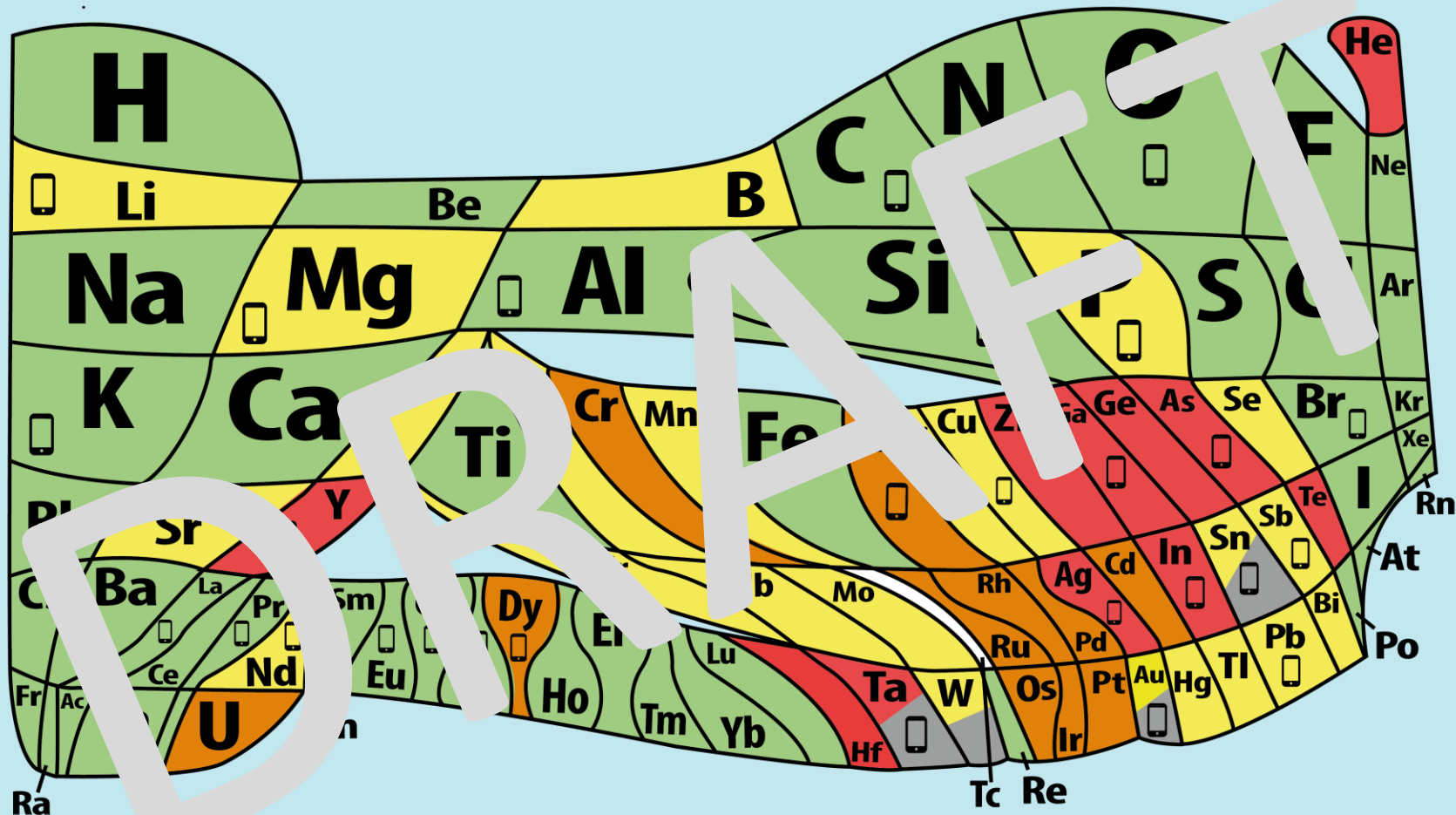
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International Year  
of the Periodic Table  
of Chemical Elements

# Die 90 natürlichen Elemente, aus denen alles gemacht ist

*Wie viel gibt es noch? Ist das genug?*



- Ernsthafte Bedrohung innerhalb der nächsten 100 Jahre**
- Steigende Gefahr durch zunehmenden Gebrauch**
- Begrenzte Verfügbarkeit, Lieferung kann in der Zukunft nicht sichergestellt werden**
- Synthetisch**
- Mineralien aus Konfliktgebieten**
- Elemente, die in Mobilfunkgeräten verbaut sind**

Logo des Sponsors

Lesen Sie weiter und spielen Sie das Videospiel: [www.euchems.org/IYPT](http://www.euchems.org/IYPT)





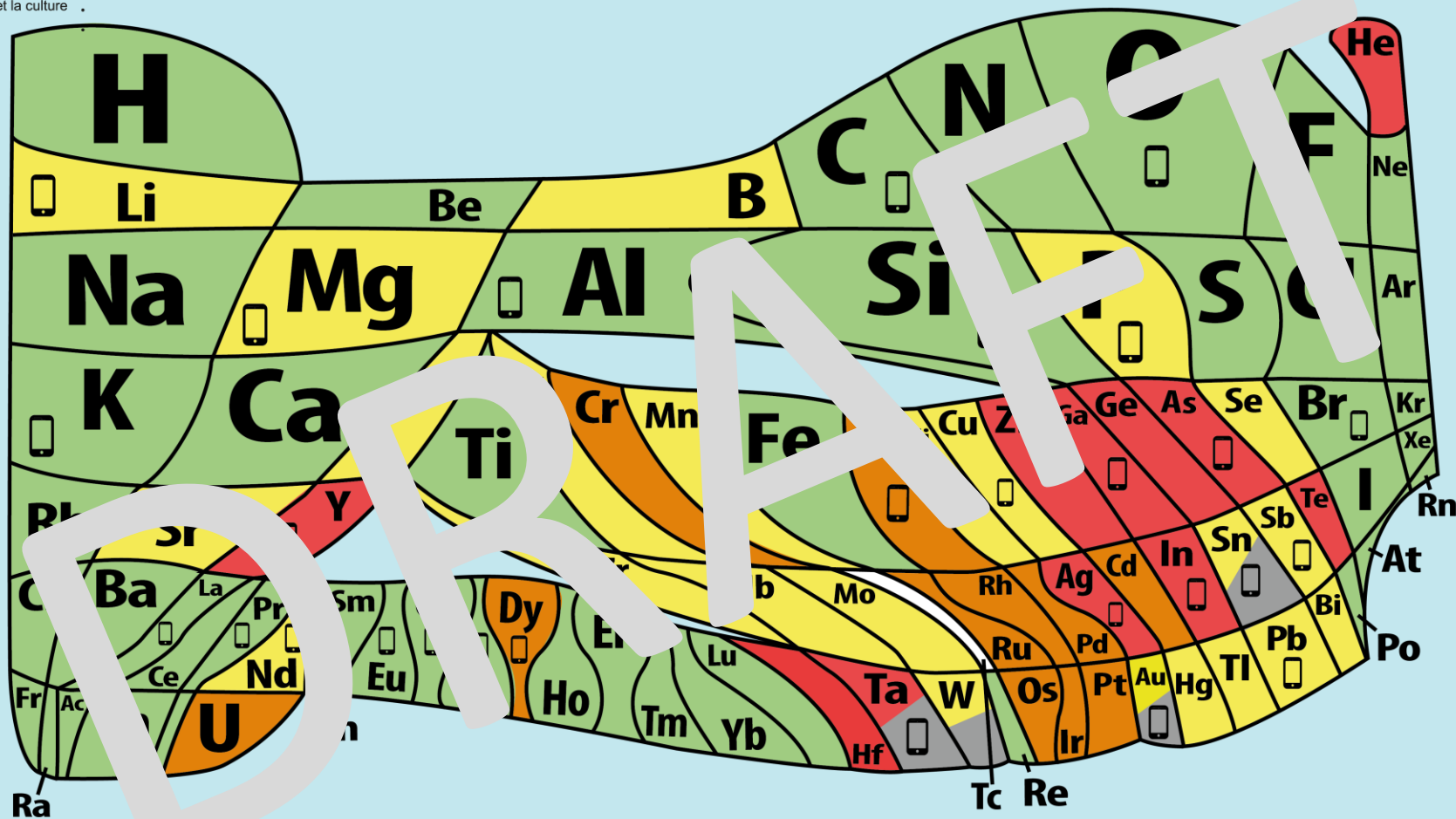








Organisation  
des Nations Unies  
pour l'éducation,  
la science et la culture

Année internationale  
du tableau périodique  
des éléments chimiques

# Les 90 éléments qui composent notre monde

## *Combien en reste-t-il? Y en a-t-il assez?*



-  Menace sérieuse dans les prochains 100 ans.
-  Menace croissante dû à une utilisation accrue
-  Disponibilité limitée avec futur risque d'approvisionnement
-  Élément Synthétique
-  Minerais dans des zones de conflits
-  Éléments utilisés dans un smartphone

Sponsor's  
Logo

Lisez la suite et jouez au jeu vidéo en ligne: [www.euchems.org/IYPT](http://www.euchems.org/IYPT)



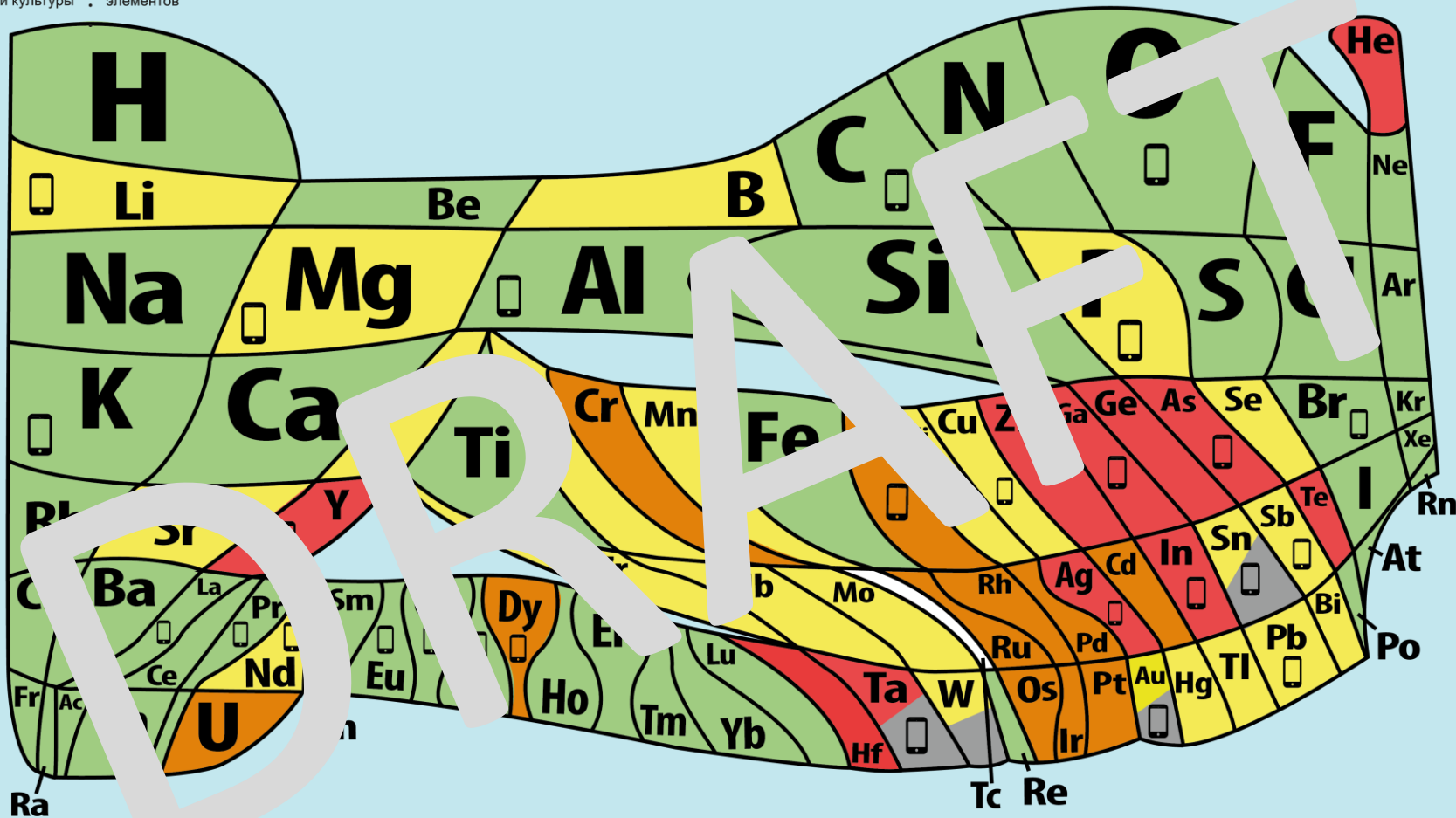








# 90 природних елемената који чине свет

*Колико их има? Да ли је то довољно?*

Организација  
Објединених Нација по  
вопросам образовања,  
науки и културе

Международни год  
Периодическе  
таблице хемических  
елемената



-  **Озбиљно угрожени у наредних 100 година**
-  **Растућа опасност од прекомерне употребе**
-  **Ограничена доступност, смањена расположивост у будућности**
-  **Синтетички**
-  **Добијени из конфликтних минерала**
-  **Елементи који су саставни део паметних телефона**

Лого спонзора

Прочитајте више и играјте видео-игрицу: [www.euchems.org/IYPT](http://www.euchems.org/IYPT)





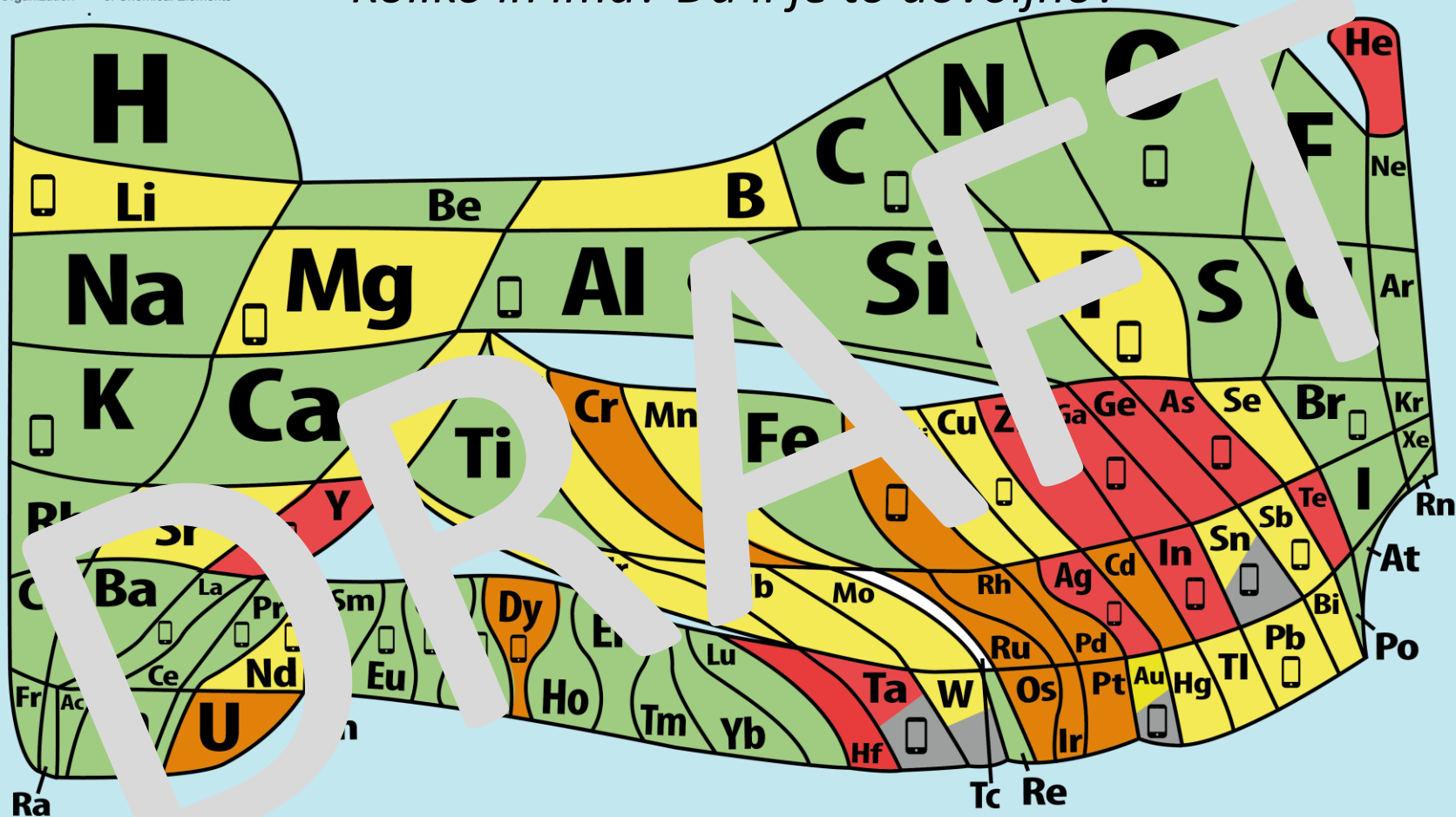
United Nations  
Educational, Scientific and  
Cultural Organization









International Year  
of the Periodic Table  
of Chemical Elements

# 90 prirodnih elemenata koji čine svet

*Koliko ih ima? Da li je to dovoljno?*



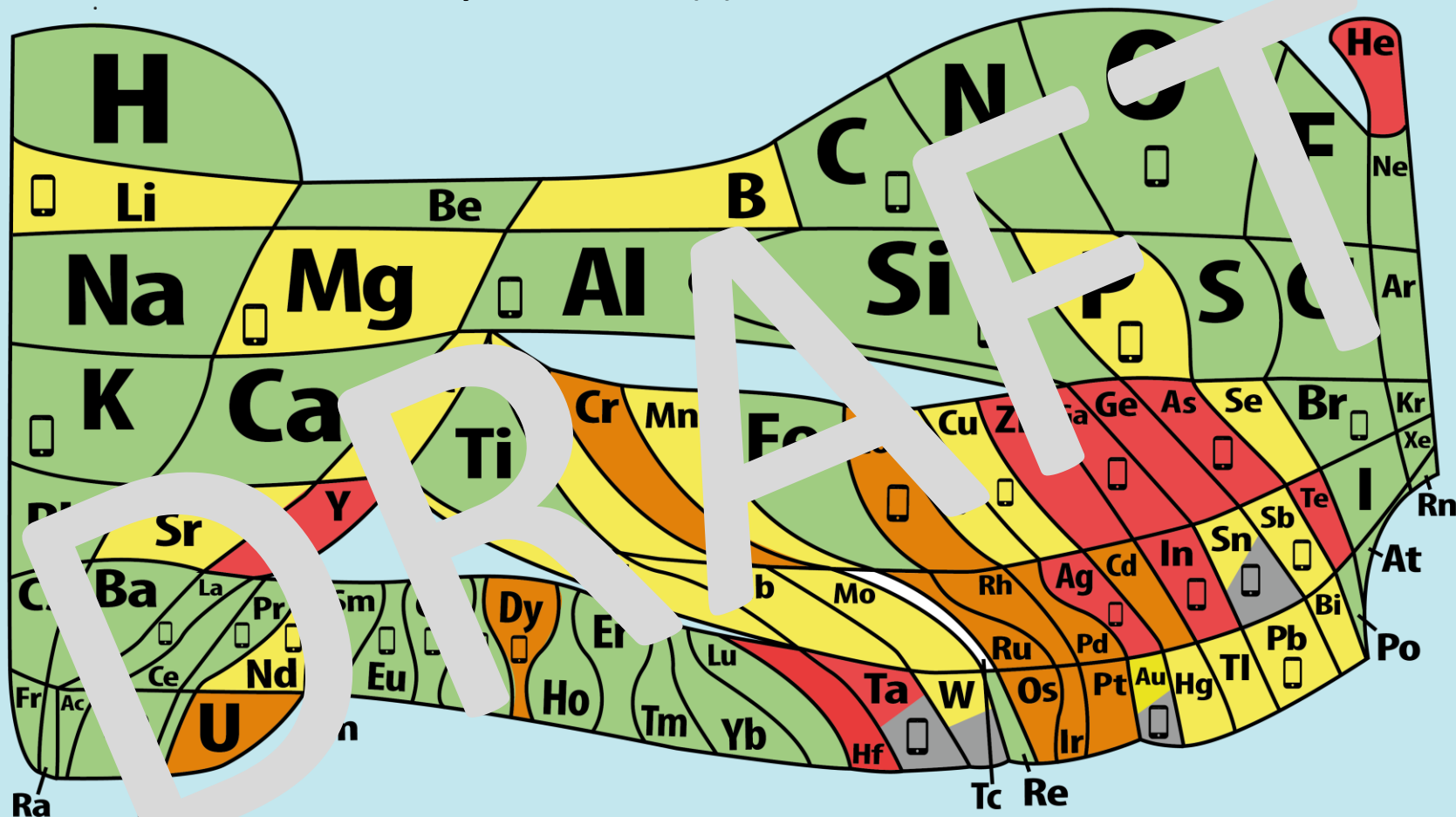
-  Ozbiljno ugroženi u narednih 100 godina
-  Rastuća opasnost od preterane upotrebe
-  Organičena dostupnost, smanjena raspoloživost u budućnosti
-  Sintetički
-  Dobijeni iz konfliktnih minerala
-  Elementi koji su sastavni deo pametnih telefona

Pročitajte više i igrajte video-igricu: [www.euchems.org/IYPT](http://www.euchems.org/IYPT)

Logo  
sponzora

# 90 природни елементи од кои светот е создаден

*Колку ги има? Дали е тоа доволно?*



- **Сериозно  
загрозени во  
наредните  
100 години**
- **Зголемена  
опасност при  
прекумерна  
употреба**
- **Ограничена  
достапност,  
зголемен ризик  
за снабдување  
во иднина**
- **Вештачки**
- **Минерали  
од  
конфликтни  
зони**
- ☎ **Елементи кои  
влегуваат во  
составот на  
паметните  
телефони**

Logo

Прочитајте повеќе и играјте ја видео играта: [www.euchems.org/IYPT](http://www.euchems.org/IYPT)



# Supporting Materials

Separate support notes for teachers and learners, but with very similar content

- **The Periodic Table**
- **The 90 natural elements that make everything**
  - Areas
  - Structure
  - Colours
  - Conflict minerals
- **Areas**
  - Structure
  - Colours
  - Conflict minerals
- **Expanding the life time of the elements**
- **Smart phones**

# Helium

- Helium (He) is the only element that can be lost. It is so light that when it gets into the atmosphere it escapes earth's gravity and is lost into space. So, we genuinely do lose helium
  - Helium (He) has important uses in high field magnets, which use superconductors that only work at temperatures below that of liquid nitrogen (boiling point  $-196\text{ }^{\circ}\text{C}$ ) and so need liquid helium (boiling point  $-269\text{ }^{\circ}\text{C}$ ) to cool them.
  - One of the main uses of these magnets is in Magnetic Resonance Imaging (MRI)
  - Another important use of helium is to dilute oxygen in the “air” that deep-sea divers breathe. Unlike nitrogen, helium does not dissolve in the blood so it does not cause any harm on decompression.
- Special methods have been developed to recover rather than lose the helium that is breathed out by divers or used to cool magnets
- **The use of helium for making birthday balloons should be avoided because when they go down the helium is lost forever.**

# Production and distribution

## Printing costs

A1 poster full colour on 200 gsm recycled silk art paper with a gloss laminate

- 50            £578
- 1000        £693

## Distribution

Universities print and distribute to schools in local area?

# Conclusions



- EuChemS will make this table available for Member Societies?
- Member Societies may chose to use it for sending to schools
- Member Societies may use it more widely on merchandise or give-aways

