

future  
foresight

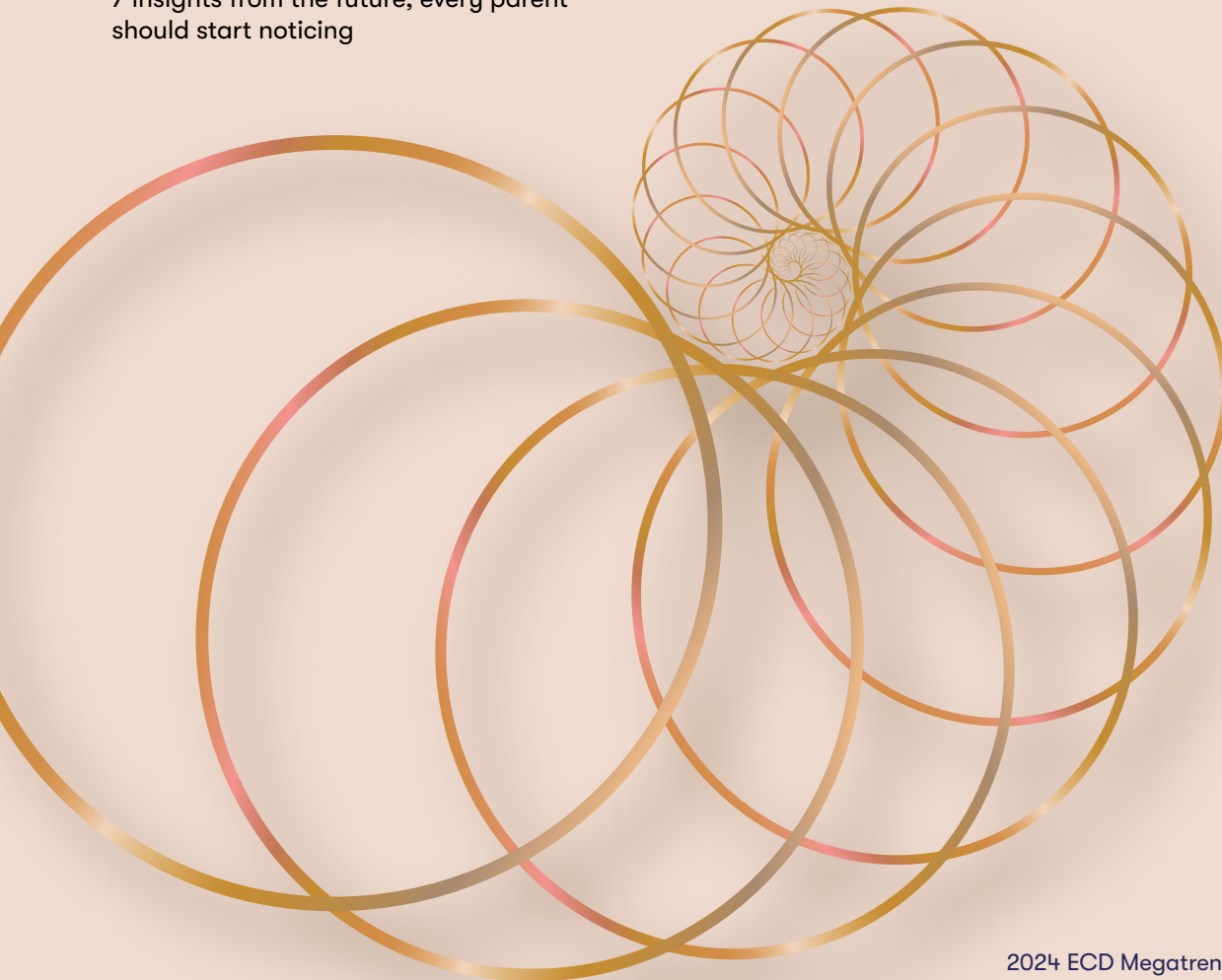


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هيئة أبوظبي  
للطفولة المبكرة  
Abu Dhabi Early  
Childhood Authority

# ARE WE THERE YET?

7 insights from the future, every parent  
should start noticing



2024 ECD Megatrends Report from  
**Abu Dhabi Early Childhood Authority**

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## Learning (in flux)

What if the way we engage with learning is going to change the way we are?

## Value of time

Do we know the real prize of enriching our children's lives?

## Ageless Society

What if the future will see a dichotomy between ageing populations and new "birthonomics"?

## Migration and Urbanization

Are we preparing for the rural-urban trade-off? Will it ever happen?

## Tech and Humanity

How will we navigate the new frontier of body-tech fusion?

## Misalignment

What will the future of parents and children relationship look like?

## Beyond Resources

Can our children thrive with less than we had?

## Commonly used abbreviations

ECA: Abu Dhabi Early Childhood Authority

ECD: Early Childhood Development

AD: Abu Dhabi

This megatrend report incorporates text generated by ChatGPT, a language model developed by OpenAI, and illustrations created by MidJourney.

## Megatrends Executive Summary

### A world of opportunity and beyond

This report advocates a balanced, holistic, and positive future for children. Its aim is to provide a "bird's eye view" of multiple changing megatrends in early childhood and adopting a holistic view, rather than simply considering early childhood by focusing on a single sector or issue at a time.

The Early Childhood Authority (ECA) mandate adopts a holistic approach, covering health and nutrition, family support, child protection, and early care and education, and hence it is perfectly positioned to anticipate the future of early childhood. The megatrends identified by the ECA foresight team this year includes: Learning (in flux), Value of Time, Ageless Society, Migration and Urbanization, Tech and Humanity, Misalignment, and Beyond Resources.

This report aims to guide individuals, government entities, academia, caregivers, and parents in preparing for an evolving landscape, using uncertainties to explore strengths and weaknesses. Recognizing the interconnected nature of megatrends, this report advocates a proactive, collaborative, and adaptable approach to shaping the future of early childhood. Each sector will use the Megatrends in a different and specific manner according to their needs, strategies and plans. This report aims at creating awareness, interconnectivity and collaboration among sectors as well as presents ten recommendations. These recommendations have been prioritized as possible examples we can use to strive for a positive and holistic future

where children can thrive and reach their full potential; in line with the ECA vision and the Aspirational Child:

“Every young child can flourish to their full potential in a safe and family friendly environment.”

## 10 Recommendations & 7 Megatrends for the Future of Early Childhood

1. Foresight integrated policy framework (FIPF): Develop policies that acknowledge the interdependence of megatrends, ensuring a comprehensive approach to early childhood development.
2. Foresight and scenario planning across government and stakeholders: Invest in research to anticipate diverse futures, enabling informed decision-making and strategic planning.
3. Future-proof education transformation (FET): Adapt education systems to the changing nature of learning, emphasizing critical thinking, reintegrating imagination and creativity, expanding digital literacy, and promoting physical and emotional intelligence.
4. Anticipatory parental support programmes (APSP): Recognize and address evolving parent-child dynamics, providing resources for parental education, mental health, and positive relationship-building and family dynamics.
5. Future-proof infrastructure planning for urbanization: Develop infrastructure supporting children's well-being in urban areas while promoting conscious urbanization with a view of the changing environment, needs, values and culture.
6. Integrate healthcare and neurodiversity in a changing society: Integrate neurodiversity considerations into healthcare and education, offering specialized support for children with diverse and changing needs.
7. Technology foresight ethics and regulation: Develop ethical guidelines and regulations to harness technology for children's benefit while emphasizing digital literacy and security.
8. Sustainable resource optimization: Encourage sustainable practices and responsible resource use with the future in mind, ensuring children can thrive with efficient and forward-looking resource allocation. Integrating innovation with the long-term view, not disruption.
9. Foster resilience with community engagement and collaboration: Facilitate collaboration between stakeholders for open dialogue and joint initiatives supporting holistic childhood development.
10. Continuous monitoring and adaptation: Implement mechanisms for ongoing monitoring, adapting policies based on emerging insights and changing circumstances.

Foreword by

## Sana Mohamed Suhail

Director General of Abu Dhabi Early Childhood Authority

It is with great pleasure that I present to you the 2024 ECD Megatrends Report from the Abu Dhabi Early Childhood Authority (ECA).

### 7 insights from the future every parent should start noticing Are we there yet?

This report represents a pivotal milestone in our journey towards ensuring a balanced, holistic, and positive future for our children and families. At ECA, we recognize the profound impact of early childhood experiences on the future generations and the society. Our mandate, encompassing health, nutrition, family support, child protection, and education, positions us uniquely to anticipate and shape the future of early childhood.

This year's report sheds light on seven megatrends that are reshaping the landscape of early childhood development: Learning (in flux), Value of Time, Ageless Society, Migration and Urbanization, Tech and Humanity, Misalignment, and Beyond Resources. These megatrends underscore the interconnectedness of various factors influencing the well-being and development of our children.

As we navigate these megatrends, it is imperative for us to adopt a proactive, collaborative, and adaptable approach. The recommendations outlined in this report provide a roadmap for stakeholders across sectors to champion policies and initiatives that prioritize the needs of our children and families.

Furthermore, this report serves as a testament to our commitment to foresight and innovation. By anticipating future trends and challenges, we can better prepare Abu Dhabi's children for the opportunities and uncertainties that lie ahead. This report is therefore not just for expert and professionals in the ECD sectors but it is also for parents and teachers and caregivers, to widen the perspective and adopt a long-term horizon for the future of our children.

I extend my heartfelt gratitude to the foresight team at ECA for their dedication and expertise in compiling this report. I also express my appreciation to our partners, stakeholders, and the broader community for their ongoing support and collaboration.

Together, let us embark on this journey towards a brighter future for our children—one characterized by resilience, inclusivity, and boundless opportunities.

Sincerely,

**H.E. Sana Mohamed Suhail**

Director General  
Abu Dhabi Early Childhood Authority



## Acknowledgements

The foresight research and analysis was undertaken by the Abu Dhabi Early Childhood Authority entirely. The work led by Dr Maddalena Campioni Future, Foresight and Strategy Expert at ECA. Leading the work was the Executive Director of Knowledge and Impact Sector H.E. Dr Yousef Salem Al Hammadi.

A special thanks goes also to the ECA Advisers, external experts, including Rabih Abouchakra from the Crown Prince Court and member of the Strategic Affairs and Future Foresight team from the Abu Dhabi Department of Government Enablement as well as Shai Naides, Chief of Youth Engagement and Strategy at UNICEF Innocenti Global Office of Research and Foresight, and numerous academics such as the invaluable interview with Dr Priti Verma, Associate Executive Dean at the Faculty of Education Higher Colleges of Technology. And thank you to many other academics and professionals which provided incredible insights and support.

## The Report

The ECA Megatrend Report is entirely produced by the Abu Dhabi Early Childhood Authority (ECA) is a government entity with a transversal mandate covering health and nutrition, family support, child protection and early care and education. ECA is adopting a future-oriented, resilient, and sustainable approach which considers that strategic priorities need to be tackled in a holistic way; understanding and integrating megatrends in everything ECA does and keeping the focus on how these are shaping the future is fundamental. In order to identify what influence the Early Childhood Development (ECD) sector could have in the future, the ECA foresight Team embarked in a foresight study to identify the megatrend relevant for the ECD sector. Foresight is about anticipating what might happen, understanding the ramification of key events and changes, and imagining a better possible and plausible future. Foresight is about making sense of large amounts of information, surface priorities and areas of interest to create resilience.

The report on Megatrends aims at surfacing major patterns in the ecosystem likely to determine what changes will take place at global and local scales. They are the first steps in considering what are the forces that are currently pushing the present into the future.

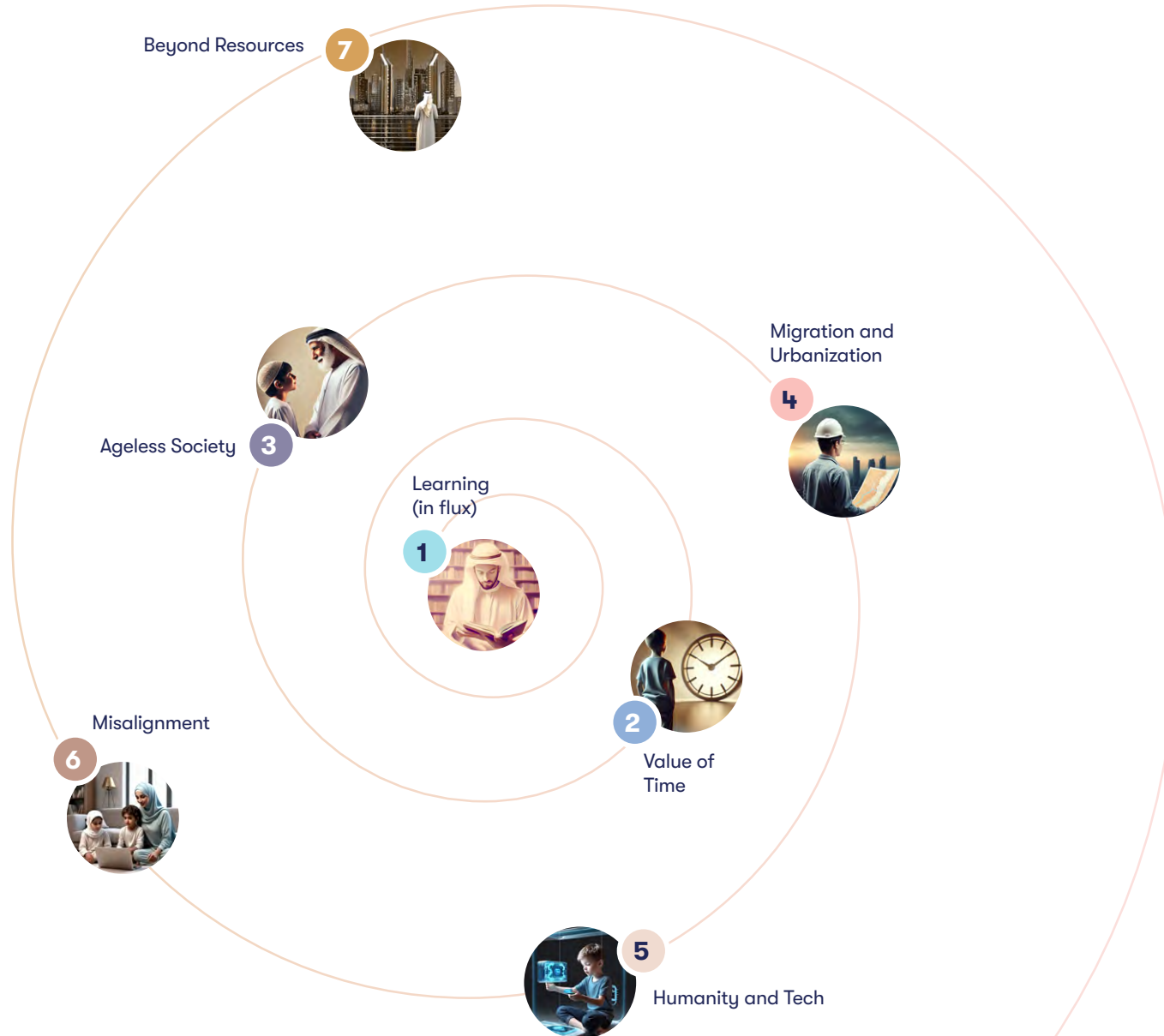
In general, foresight literature focuses on individual elements of early childhood i.e. education, health or other; ECA, however, adopts a holistic wider view and the current literature on single sector is not enough. This is a unique publication on the megatrends influencing early childhood.

The aim of this report is triple: firstly, stay ahead of the curve by keeping an eye on these transformative megatrends; secondly, to surface, analyse, and link global megatrends for early childhood development; and thirdly creating a fundamental foresight tool for early childhood.



Megatrends help us to focus on how the future will develop, and it is up to us all, in our actions and inactions, how we perceive and enact that future. But if we fail to consider megatrends in their entirety, we risk losing important insights and dynamics of change that could be fundamental for decision-making. We could create a blindspot or skewed perspective towards change, leading to fragility.

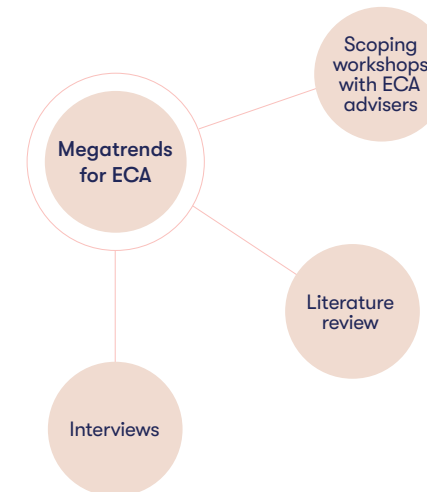
This involves issues such as reducing obesity in young children, detecting special needs early, reducing child mortality, increasing mental health of children, parents, and caregivers, reducing the socio-economic gap in learning, nurturing positive cultural identity and social cohesion, addressing quality time between parents and children, increasing confidence in the child protection system, and rehabilitating child victims, enabling the private sector in the early childhood development sector and more. Single interventions, policy, research and strategy need to be linked to the dynamic of change making Abu Dhabi a child-friendly Emirate, mitigating risks and leveraging opportunities.



## Rationale

This Report is not intended as a systematic literature review but rather a collective agreement among experts on current foresight knowledge for the Early Childhood Development (ECD) sector. This will move and change as time passes and therefore this report will keep on evolving year after year.

In this report there are examples of major megatrends specific to the ECD sector, identified and prioritized from analyses and negotiated agreement from experts' interviews and advisers, and integrating results from scoping workshops, meetings, and a review of reports and scholarly articles, as well as online research.



## Megatrends and Foresight at Early Childhood Authority?

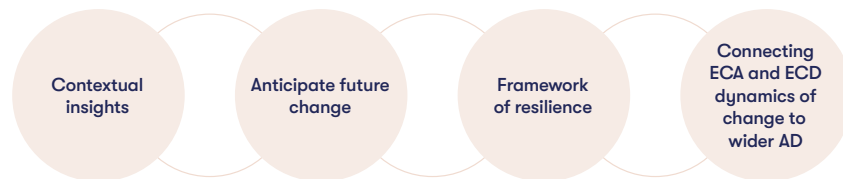
### What are the five uses and benefits of defining megatrends for Early Childhood Development?

- Creating awareness and resilience among parents and general population, creating an integrated understanding of current and future changes.
- Protecting and supporting children and parents means that we, as government, are building and supporting a framework resilient to change and anticipatory in nature.
- Understanding Early Childhood Development megatrends creates important contextual insights for strategy development, planning, decision-making, research, policy, and operational development, while considering cultural identity and social cohesion.
- Anticipating what might come and what, as government, we need to put in place in terms of policies, regulations, information, and awareness campaigns, and so on, creating resilience and sustainability for society.
- Foresight material and, in particular, trends and megatrends can also be of interest for a wider understanding of dynamics of change that will impact on Abu Dhabi and our societies.

Megatrends can have both positive and negative impacts, and they shape the opportunities and challenges that societies and economies face.

Make use of them by integrating the different megatrends into your projects, your decisions, your teaching and your children's upbringing and see how this affects your everyday perspective of life.

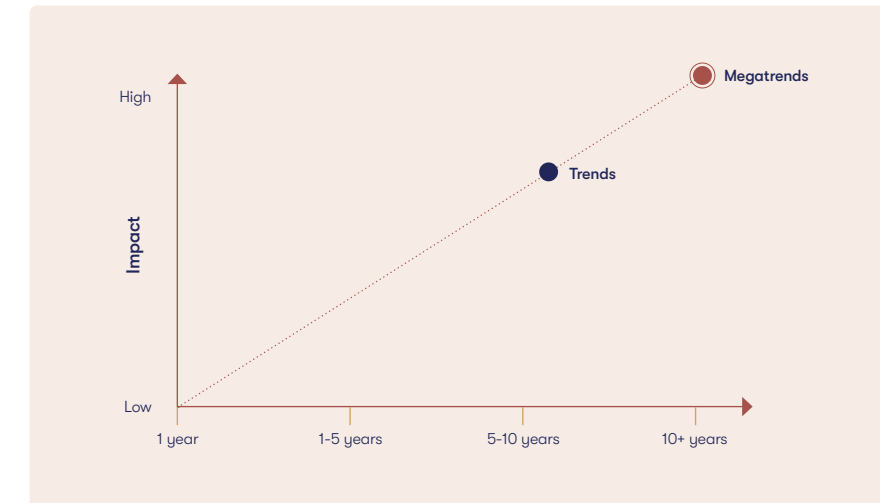
Identifying and understanding megatrends can help individuals, experts, academia, businesses, and policymakers anticipate and adapt to the changing landscape and focus on resilience and sustainability, as well as provide a wider perspective on decision-making.



## Trends vs Megatrends

**Trends** are relatively short-term shifts in behaviour, attitudes, or technology that can be observed over a period of a few years. Trends can be driven by a variety of factors, such as changes in preferences, technological advances, or economic conditions. Examples of current trends include new schooling models, child and parental mental health, and increased cross-sectoral collaboration for childcare.

**Megatrends**, on the other hand, are more significant and long-lasting shifts in the global landscape that are expected to shape the world for decades to come. Megatrends are driven by large-scale social, economic, or environmental forces and are characterized by their broad and far-reaching impact. Examples of current megatrends include climate change, urbanization, demographic shifts, and technological disruption.

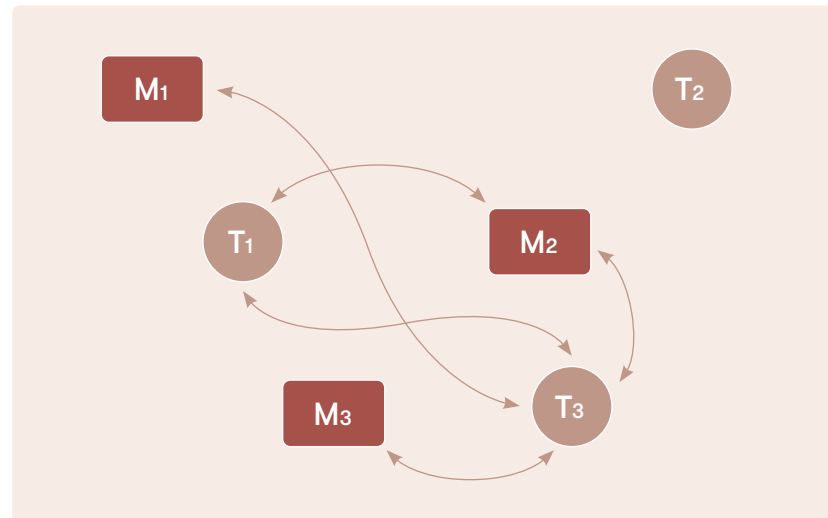


## How Trends and **Megatrends** co-exist

### T = Trends M = Megatrends

Different trends might be related to each other because of a similar topic or interlinked topics (↔), and at the same time they can be linked to megatrends. But not all are interlinked. Understanding the dynamics and interactions between trends and megatrends will allow for a better understanding of change.

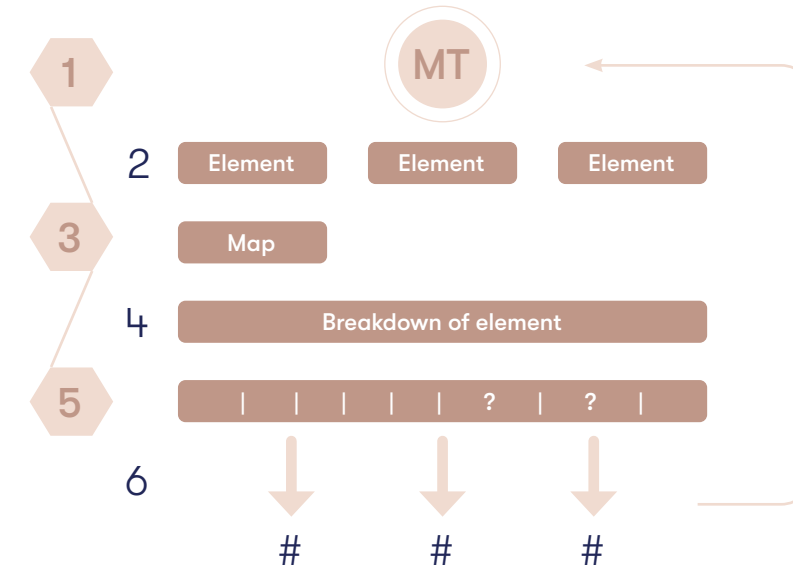
Each megatrend in this report will create an opportunity to anticipate possible consequences and develop policies ahead of time, strategies, plans, research, and more.



## Use of Data in **Foresight**

### Assumptions:

- The use of data in foresight is different than how it is used in research or other disciplines;
- The future is not here yet; therefore, any use of data is a proxy for future and foresight insights. Data used in this report have an illustrative purpose only;
- While the logic is based on the assumption that "nobody knows the future", and therefore we are building it as we go, data might help us to understand plausible possible futures and the dynamics of change;
- The figure below is a crude representation of how data is used for foresight and in this ECA Megatrend Report in particular.





# Guide to navigate the Megatrends

Megatrend Title

## 1. Learning (in flux)

Elements

Question for the future

### The Big Question

What if how we engage with learning is going to change the way we are?



**87%** 3-4 year olds worldwide already online<sup>(1)</sup>

Introductory explanation

Learning in flux: Learning and education is in flux and has been disrupted. The future presents new opportunities for personalized learning, but also raises concerns about screen time, cognitive development, and the digital divide. Let's consider the following **three elements which are important to start noticing**:

Three elements defining the Megatrend

The **transformation**<sup>(2)</sup> is here to stay, for the long term and is an integral part of early childhood learning. Technology and COVID combined had created a fundamental change among others, the future sees the rise of interactive educational apps, online learning platforms, and digital resources. This transformation can potentially enrich children's educational journeys, while offering flexibility and options to children and parents alike. The future may also see a loss of analytical and emotional skills and a rise in addiction.

At the same time, limited access to finance, technology, and internet connectivity in disadvantaged communities exacerbates educational disparities and **inclusivity**<sup>(3)</sup> affecting children's learning opportunities. The future sees an imbalance approach potentially accentuating inequality.

Teachers, educators, policymakers, and parents are not able to keep up with the speed of transformation at the same rate, causing **asynchrony**<sup>(4)</sup> in both adoption of technologies, and understanding implications and consequences of change vs benefits and augmentation for children.

The future is about an asynchrony in speed and understanding but also about choice of adoption and tech development. Transformation, inclusivity, and asynchrony ramifications become more apparent.

Present data linking the megatrend to a possible future

<b>&gt;1 in 4</b>	Abu Dhabi parents in favour of apps and gadgets as part of daily activities for 0-8-year-olds <sup>(5)</sup>	<b>34%</b>	Parents in UAE who feel children need extra tutoring beyond secondary school <sup>(6)</sup>	<b>&lt;10%</b>	Schools worldwide having any type of formal response (policy, guidelines) to GenAI <sup>(7)</sup>
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Example of imagining the future ramification

### Imagine

In 2050, your 7-year-old daughter could learn about her future career based on AI tracking her interests and growth at school, home, and in the playground



### Transformation

3 Elements Title

Conscious and inclusive	<b>25,000</b> – UAE gov. teachers and administrators trained in remote learning in the wake of the pandemic, as well as 9,200 private school teachers and principals <sup>(8)</sup>
Merging spheres of learning spaces	<b>57.5%</b> – more than half of daily online time in UAE is spent on mobile <sup>(9)</sup>
Flattening dynamic of learning	<b>50 million</b> – Arab students accessing free education platform madrasa.org <sup>(10)</sup>
Outsourcing elements of learning	<b>1.6 billion</b> –monthly visits to ChatGPT by June 2023 <sup>(11)</sup>

Elements Mapping

### Inclusivity

Data related to the mapping

Pros and cons of late adoption	<b>More than 1 in 4</b> – Abu Dhabi parents in favour of apps and gadgets as part of daily activities for 0- to 8-year-olds <sup>(5)</sup>
Access and affordability	<b>18,000+</b> students to be trained by 2026 in a free access, no-teaching staff network of 52 coding schools worldwide, including Abu Dhabi Campus on Mina Zayed <sup>(12)</sup>
Arabic in digital spheres	<b>221%</b> – increase in gaming live streams in Arabic on Twitch during lockdowns among 4.4 million fans in Gulf Cooperation Council (GCC) area <sup>(13)</sup>
Getting ahead with premium	<b>\$287.9 billion</b> – global private online tutoring market by 2030, up from \$147.6 billion in 2022 with annual growth rate of 8.7% <sup>(14)</sup>
Inclusivity policies	<b>500 million</b> – pre-school to upper secondary students worldwide unable to access remote learning during pandemic <sup>(15)</sup>

### Asynchrony

Uneven pace of understanding	<b>3000</b> – Australian families who will be the subject of "Digital Child", the world's first longitudinal study into digital childhood, 0- to 7-year-olds, starting in 2023 <sup>(16)</sup>
Speed of change vs adoption	<b>87%</b> – 3- to 4-year-olds worldwide already online, 23% of them are on social media <sup>(1)</sup>
Old learning modes lagging behind	<b>34%</b> – parents in UAE who feel kids need extra tutoring beyond secondary school <sup>(6)</sup> ; <b>29%</b> believed same for primary school <sup>(10)</sup>
Effectiveness vs efficiency	<b>59%</b> – UAE parents preferred to continue with distance learning while 41% backed classroom lessons <sup>(17)</sup>
Current needs vs emergent needs	<b>Under 10%</b> – schools with response to AI disruption <sup>(7)</sup>

## 10 Questions for the **Future**



1. Do we know what the future will look like?
2. How important is it that we have a clearer view of possible futures?
3. How can we better prepare Abu Dhabi Children for the future?
4. Will there be schools in the future?
5. What will the future classroom look like?
6. How will autism and other neuro-diversities be considered in the future?
7. What will children be facing in the future?
8. How do we anticipate and prepare?
9. What is beyond AI and robotics?
10. What role will tech play?



The following 7 Megatrends result from the negotiated agreement of numerous experts in the Early Childhood Development field and beyond. These are the main priorities we should be always consider in the ECD environment as government entities, educators, academics, parents, and individuals for the future of our youth and society.

# 1. Learning (in flux)

# Elements



## The Big Question

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>1 in 4

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Schools worldwide having any type of formal response (policy, guidelines) to GenAI<sup>(7)</sup>

## Imagine

In 2050, your 7-year-old daughter could learn about her future career based on AI tracking her interests and growth at school, home, and in the playground



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## 2. Value of Time

## Elements



### The Big Question

Do we know the real price of enriching our children’s lives?

**2–3x** less time spent by parents with children per week in Abu Dhabi vs those in OECD countries <sup>(17)</sup>

There is a crucial time in the development of children and in a family dynamic that is undervalued. Parents are losing valuable time during their children’s development due to pressure of modern commitments. Family time is “leaking” into other areas of life. For the future there are **three elements we need to start noticing: awareness, placement of time, exploitation**

We are witnessing a general lack of **awareness**<sup>(18)</sup> of the important factors affecting parent–child quality time during a child’s development.

Will we in the future lose consciousness? Parents are scheduling the day-to-day activities of their children around learning, playing and engaging in extracurricular activities. While these activities can enrich the lives of children, they are often competing with the quality time parents spend with their children. Here, we are surfacing the importance of conscious **placement of time**.<sup>(19)</sup>

What if complacency in taking an action leads to unintended consequences? Online, the private sector competes to grab the attention of children and parents alike, inserting themselves in the diminishing time families have together. The attention-reliant business models of online platforms have created an environment of **exploitation** <sup>(20)</sup> in the competition to grab attention. Increasingly, in this ecosystem, a renewed emphasis on intention comes to play. Early screen time is affecting cognitive development <sup>(21)</sup> ...perhaps in the future we look back and find it alarming that children even had access to screens or certain apps/devices before specific ages.

<b>80%</b>	Human brain develops before the age of 3 <sup>(22)</sup>	<b>68%</b>	UAE parents claim children spend too much time online <sup>(23)</sup>	<b>32 mil.</b>	Reported cases of online grooming of kids in US alone <sup>(24)</sup>
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## Imagine

Everyday at breakfast you gather as a family in order to consult M(AI)tha – your efficiency AI – about how to organize the day in a way that allows for both productivity and quality time.



### Awareness

Rise of mindful time	<b>\$7,586 million</b> – expected market value of “mindfulness” apps by 2031, up from \$522 million in 2022 <sup>(25)</sup>
Cognitive windows	<b>80%</b> – human brain development before the age of 3 <sup>(22)</sup>
Split attention	<b>+8.8%</b> – year on year growth of mobile’s share in all web traffic in UAE <sup>(26)</sup>
Value of play	<b>97%</b> – parents in UAE believing play improves their family happiness and wellbeing <sup>(23)</sup>

### Placement of Time

Cost of bonding	<b>2–3 x</b> – less time spent by parents with children per week in Abu Dhabi vs OECD countries <sup>(17)</sup>
System vs individual	<b>30%</b> – parents claim too much work a key barrier to playing more as a family <sup>(23)</sup>
Division of time online vs in real life	<b>68%</b> – UAE parents claim children spend too much time online <sup>(23)</sup>

### Exploitation

Monetizing attention	<b>105%</b> – TikTok ads reach to all adults aged 18 and above in UAE <sup>(26)</sup>
Banking on trust	<b>1,200%</b> – increase in Gen Z usage of the BeReal app compared to 2020 – social medium emphasizing authenticity and transparency <sup>(27)</sup>
Instant gratification game	<b>17.6 million hours</b> – daily hours spent on watching Instagram Reels worldwide <sup>(28)</sup>
Colonizing online spaces	<b>32 million</b> – reported cases of online grooming of children in USA alone <sup>(24)</sup>

# 3. Ageless Society

# Elements



## The Big Question

What if the future will see a dichotomy between ageing populations and new birthonomics?

**77** average life expectancy worldwide by 2050, increasing from 73 in 2023 <sup>(29)</sup>

Changing demographics leads to a variety of dynamics and ramifications for families and societies. We are witnessing a global decline in births, paired with longer lifespans. A demographic turmoil but also new opportunities for intergenerational relationships, for example ageinclusive societies, and support systems promoting healthy ageing. For the future, **there are 3 important dynamics to notice: accessibility, extended interactions, multigenerational households**

Important changes focusing on population dynamics and **accessibility**. <sup>(30 31)</sup>

What if couples continue having children later in life or experiencing fertility challenges? At the same time demand has risen to provide support systems that address the unique needs of older parents and consider the entire life cycle.

Increasing lifespans enable **extended interactions** <sup>(32)</sup> between older adults and young children, promoting positive intergenerational relationships and benefiting children’s cognitive, social, and emotional development. This has implications for social stability and economic implications among other socio-economic considerations.

What if the future sees a return to greater life expectancies? Families may experience further **multi-generational households**, <sup>(33)</sup> grandparent caregiving, and the blending of roles, which can influence early childhood development and support systems.



## Imagine

You’re calling your children to help in the kitchen. Today’s dinner is in celebration of your sister’s new baby – first in years for the family. Your Great-great-grandparents are in the room and share their wisdom with the new mother. You’re emotional at the sight of your household finally growing.



## Accessibility

Decline in births	1.2% – decline in birth rate in UAE since 2023 <sup>(34)</sup>
New family dynamics	44% – US couples under 50 not planning to have children <sup>(37)</sup>
Access to support (fertility)	20% – large US companies offering egg freezing as part of employee insurance scheme <sup>(38)</sup>
Autonomy – system and individual	54 – number of world governments without an official fertility policy <sup>(39)</sup>
Tech and science at centre stage	\$68.9 billion – expected market worth of Femtech industry in 2027 from \$37.3 billion in 2023 <sup>(40)</sup>

## Extended Interactions

Extended lifespan	77 – average life expectancy by 2050, from 73 in 2023 <sup>(29)</sup>
Economic implications	150 million – worldwide jobs shifting to workers over 55 years old by 2030 <sup>(35)</sup>
Age-inclusive society	28% – over 65-year-olds living in UAE in 2050 <sup>(36)</sup>
Health and ageing	\$142 billion by 2026 – personalized medicine market globally, with 11% compound annual growth rate (CAGR) <sup>(41)</sup>

## Multi-generational Households

Intergenerational learning opportunity	4 times more Americans in multigenerational households compared to 50 years ago <sup>(42)</sup>
More immersed in heritage	8% – MENA youth in 2023 referring to Arabic heritage as main source of personal identity, 11% derived it from their language <sup>(43)</sup>
Managing continuity	86.4% – family cohesion index for UAE measuring strength of social bonds in family <sup>(44)</sup>
Connectivity	27% – MENA youth declaring family as primary source of personal identity, up from 17% in 2022 <sup>(45)</sup>



## 4. Migration & Urbanization

## Elements



### The Big Question

Are we preparing for a rural–urban tradeoff?

**1,000%** population growth in Abu Dhabi in 42 years <sup>(46)</sup>

A megatrend affecting early childhood which has been happening for a while: the population shift from rural areas to cities. This is expected to continue in the future and **there are three elements which are important to start noticing: enhanced access, social isolation, limited access to natural environment**

The future sees urban environments offer opportunities for **enhanced access** <sup>(47)</sup> to education, healthcare, and diverse experiences. However, there are some challenges and risks posed to children living in urban spaces.

While urban areas may offer various opportunities and amenities, they can also foster a sense of **social isolation** <sup>(48)</sup> and decreased community cohesion, affecting children’s social development, cultural identity, and well-being.

What if in the future we struggle to connect with nature? Urbanization also often leads to the proliferation of concrete jungles, with **limited access to natural environments** <sup>(49)</sup> and green spaces. Children growing up in urban areas may have reduced opportunities to interact with nature, causing negative consequences on their physical and mental well-being.

68%

global population living in urban settings by 2050, up from 55% today <sup>(47)</sup>

28%

adolescents in UAE experience anxiety significantly higher than global average of 6.5% <sup>(50)</sup>

100 mil.

mangrove trees that UAE pledged to plant to reach carbon footprint goal by 2030 to achieve carbon neutrality by 2050. <sup>(51)</sup>

### Imagine

As a child you were worried about your move to Abu Dhabi. However, as you open your holographic welcome letter from the council, you’re taken on an augmented reality tour of your new city. Green arrows lead you to a beautiful botanic garden, where you find a large ghaif tree where other children seem to be engaged in some kind of classes – can I join? You ask a boy your age as he smiles and invites you to sit with them.



### Enhanced Access

All social layers on the move	68% – global population living in urban settings by 2050, up from 55% today <sup>(47)</sup>
Accelerated growth	1,000% – population growth in Abu Dhabi in 42 years <sup>(46)</sup>
Megaprojects	2 million by 2030 – estimated population of Neom, a brand new 100% clean energy city in Saudi Arabia <sup>(52)</sup>

### Social Isolation

Anxiety	28% – adolescents in UAE experience anxiety – significantly higher than global average of 6.5% <sup>(50)</sup>
Alone together – mental challenges	90 – number of initiatives introduced by UAE in 2019 as part of National Wellbeing Strategy 2031 to tackle physical health, mental health, and social relationships <sup>(53)</sup>
Isolated but connected	78 million – simultaneous visitors to one live concert inside a children’s game (Fortnite) in 2021 <sup>(54)</sup>

### Limited Access to Natural Environments

Transforming land	1 million – Ghaif trees pledged to be planted using unmanned ground vehicles (UGV) developed by CAFU <sup>(55)</sup>
Transforming daily spaces (office, flat)	2640 – number of trees planned to be planted on Impact One Vertical Forest in Dubai <sup>(56)</sup>
Race to get greener	83000 – green jobs in UAE by 2030 <sup>(57)</sup>
Reducing footprint	100 million – Mangrove trees that the UAE plans to plant by 2030 which will help to reduce the carbon footprint and achieve neutrality by 2050. <sup>(51)</sup>
Community of communities	500 – governors, mayors and other subnational leaders came together for the first of its kind “Local Action Climate Summit” during COP 28; 71 countries joined new coalition on urban climate action. <sup>(58)</sup>

# 5. Tech & Humanity

# Elements



## The Big Question

How will we navigate the new frontier of body-tech fusion?

**\$0.4bn** overall UAE gaming market size value<sup>(59)</sup>

The balance between tech and humanity needs to be well defined. From brain-computer interface to AI and large language models (LLM), robotic prosthetic enhancements and AR goggles, tech is being further integrated into the ways we work, learn, play and live our lives, but what are the ramifications for the future? Start noticing **these three important elements: mind body gap, disruption of education system, augmented reality**

The future sees us facing the ramifications of a number of important innovations; however, the change caused by these innovations are not well understood. For example, AI, enhanced exoskeletons, and VR are bridging the **mind-body gap** <sup>(60)</sup> in connecting the mind with devices on the other side of the globe or offering a promise of mobility to children with mobility issues, often caused by spinal damage or defects.

AI and LLM (Large Language Models) <sup>(61)</sup> such as ChatGPT and Google Bard are enhancing or **disrupting our education systems**, <sup>(62)</sup> for example challenging cognitive development, the existing testing standards, and models by which we measure academic progress, and at the same time raising issues and opportunities for equality and accessibility.

In the future we will see, for example, enhanced accessibility to **augmented reality** <sup>(63)</sup> devices such as the Apple Vision Pro which can dramatically disrupt the ways in which children will interact with our physical world, further blurring the line between digital and physical spaces and ultimately affecting their emotional intelligence, a very critical future skill for children and society. In addition, there are concerns around privacy, individual freedoms, consent with technology (tricky with children), and how the mass adoption of new technologies has overtaken our ability to assess impact on health (including mental health), and of course the ability to legislate well. All these creating a number of ramifications that, if not anticipated, are difficult to disentangle

<b>22x</b>	increase globally in the period 2010–2020 in Neurotech <sup>(64)</sup>	<b>40</b>	UN agencies gathered in 2023 to address the AI as an unregulated grey space during AI for Good Summit <sup>(65)</sup>	<b>4.7 hr/day</b>	World's Gen Z daily time spent in Metaverse by 2027 <sup>(66)</sup>
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## Imagine

You are on your way to your cousin's apartment as you promised to help his children upload the C2-level language courses in Arabic, Spanish, and Russian into their new exoskeletons. They want to practise Arabic during the Exo-Sports tournament



## Mind Body Gap

Fusing body with tech (blurred boundaries)	<b>22x</b> – increase between 2010 and 2020 globally in Neurotech <sup>(64)</sup>
24/7 tech exposure	<b>32.1 billion</b> – number of connected IoT devices worldwide by 2030 <sup>(67)</sup>
Beyond human	<b>\$6.2 billion by 2030</b> – estimated global brain-computer interfaces market <sup>(68)</sup>

## Disruption to Education System

Advancing at new speeds	<b>150%</b> – expected increase in the world's total amount of data by 2025 equal to 181 zettabytes <sup>(69)</sup>
Call for new measuring standards	<b>40</b> – UN agencies gathered in 2023 to address the AI regulations during AI for Good Summit <sup>(70)</sup>
Un(fo)reseen students	<b>42%</b> – online students are 30 years old or older on Guru99, an online school for coders, AI, and other emerging digital tools <sup>(71)</sup>
Re-defining role and time of play	<b>52.4 million</b> – number of 50+ gamers in USA, 32% increase in 3 years <sup>(72)</sup>

## Augmenting Reality

Self-perception	<b>\$54 billion</b> – industry value of avatars, digital skins, and accessories for online identities <sup>(73)</sup>
Gaming	<b>0.4 billion</b> – overall UAE gaming market size value <sup>(59)</sup>
Cognition	<b>680.1 billion by 2027</b> – EdTech industry value with CAGR of 17.9% in the period 2020–2027 <sup>(74)</sup>
Digital plains	<b>4.7 hours a day</b> – World's Gen Z daily time spent in Metaverse by 2027 <sup>(66)</sup>

# 6. Misalignment

# Elements



## The Big Question

What will the future of parents and children relationships look like?

**21%** UAE population spend over 21 hours per week on social media <sup>(75)</sup>

External factors are competing with parents for playing a role in children’s development. Media, family, friends, educators, and influencers are shaping children’s perspective of the world, for better or for worse. Let’s consider the **following three elements which are important to start noticing: access to globalized world, alternative family dynamics, cultural contexts and values**

Children are facing reduced exposure to their own culture and heritage, as global connectivity is providing ease of **access to the globalized world**. <sup>(76)</sup> Now, influencers, they have never met, play a large role in shaping their worldviews.

What if divorce, remarriage, and blended families could create **alternative family dynamics** <sup>(77)</sup> that can be challenging for caregivers and children to navigate. Community resources, such as parenting programmes and support groups, provide guidance and assistance to parents in strengthening their bond with their children. Where perhaps future schools might play a far larger community role.

In a changing schooling system, the future might present us with franchised educational institutes such as an out-of-the box approach to school’s service provision, bringing a variety of **cultural contexts and values** <sup>(78)</sup> which may not be a best fit for their new environment or, alternatively, a connection to nature and a more balanced approach to culture and identity. Do we know what we want?

<b>27%</b>	Children worldwide quoting “the world” as main source of self-identity over “region” or “city” <sup>(79)</sup>
<b>5%</b>	Emirati children in Dubai in nurseries <sup>(80)</sup>
<b>28</b>	Planned number of public ‘Ajjal’ schools in UAE by 2025 with mixed US/UAE curriculum to boost local culture <sup>(81)</sup>

## Imagine

The school your son attends employs a new children’s career counsellor in an attempt to enable a smoother learning experience for those pupils who also run successful media influencer companies and art collectives.



## Access to a Globalized World

Negotiating heritage	<b>27%</b> – children quoting “the world” as main source of self-identity over “region” or “city” <sup>(79)</sup>
Growing up on a move	<b>20%</b> – increase in international schools across MENA region in the period 2015–2021 <sup>(82)</sup>
Digital tribes	<b>377 million</b> – eSports gamers from the Middle East, the fastest growing gaming region in the world <sup>(83)</sup>

## Alternative Family Dynamics

Family in flux	<b>2021</b> – UAE Cabinet Launches “Cohesive Family 2021” <sup>(84)</sup>
Outsourced care	<b>58%</b> – children under the age of three in the Gulf are cared for by housemaids for 30-70 hours per week <sup>(80)</sup>

## Cultural Contexts and Values

Juggling contexts	<b>28 by 2025</b> – planned number of public “Ajjal” schools in UAE by 2025 operating a hybrid US/ UAE curriculum to boost local culture <sup>(81)</sup>
Voices inside the screen	<b>21%</b> - UAE population spend over 21 hours per week on social media <sup>(75)</sup>
Parental control	<b>\$3.54 billion by 2032</b> – global parental control software market <sup>(85)</sup>
Child professionals	<b>68%</b> – eSports industry respondents voicing concern over the need for regulation on employing minors on e-sporting contracts <sup>(86)</sup>
Competing with devices	<b>3.3 devices</b> – daily “technoference” worldwide (interference of tech devices) on contact with own child <sup>(87)</sup>



# 7. Beyond Resources

# Elements



## The Big Question

Can our children thrive with less than we had?

**59%** eco-anxiety among 16- to 25-year-olds across ten countries <sup>(88)</sup>

Planetary resources are finite, unevenly managed, and with limited supply. Earth is witnessing an increasing frequency and intensity of natural disasters, as well as pollution, all of which negatively impact children’s health and development. **3 things to start noticing: cost of breathing, vulnerability and inequality, access essential resources**

An alarming pay-to-breathe industry is emerging and flourishing in developing and heavily industrialized nations, where those that can afford it are, for example, relying on expensive indoor air purification systems as an answer to increasing air pollution including particulate matter. The future sees a lot of innovation, but will it be coordinated? **Cost of Breathing.** <sup>(89)</sup>

Displaced families, loss of livelihoods, damaged infrastructure, and reduced economic activities can lead to increased **vulnerability and inequality.** <sup>(90)</sup> At the same time, the future might see families and communities come together in times of difficulty. Should we be thinking of an alternative society, strengthened by new demands and methods?

As resources become scarcer and more expensive, it may be challenging for families with limited financial means to **access essential resources** <sup>(91)</sup> such as food, energy, and clean water. Resource scarcity may ignite our acumen or create instability. How do we navigate our way forward? Or could resources be more than enough?

<b>17%</b>	Antibiotic resistance rise by 2050 <sup>(92)</sup>	<b>5.9 mil.</b>	People across 84 countries who have been internally displaced due to droughts, heatwaves and climate disasters <sup>(93)</sup>	<b>86K</b>	Green jobs in UAE by 2030 <sup>(94)</sup>
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## Imagine

You are about to send your children to a summer camp. You receive a welcome letter with prep info containing detailed instructions on the organizer’s policies and procedures in daily biometrics and toxicity tracking as well as sudden disaster protocols.



## Cost of Breathing

Bond to nature goes smart	<b>682</b> – number of start-ups worldwide pursuing baby health and vitals monitoring, including sleep tech and breath tech <sup>(95)</sup>
Designing for perpetual wellness	<b>44,000</b> – population of a pilot zero-carbon Al Nama city in Saudi Arabia, providing 11,000 green housing units and 10,000 jobs in green tech as part of 2030 vision <sup>(96)</sup>
Harnessing hazards and waste	<b>6.5 mill tonnes</b> – CO2 saved annually by 2030 through Green Hydrogen Project in UAE <sup>(97)</sup>
Resistance horizons	<b>17%</b> – antibiotic resistance rise by 2050 <sup>(92)</sup>

## Vulnerability and Inequality

Disruption-proof systems	<b>\$160 to 340 billion</b> – a year by 2030 needed to mitigate and address climate change <sup>(98)</sup>
Creating new contingency lifestyles	<b>5.9 million</b> – people across 84 countries who have been internally displaced due to droughts, heatwaves, and climate disasters <sup>(93)</sup>
Mental toll	<b>59%</b> – eco-anxiety among 16- to 25-year-olds across ten countries <sup>(88)</sup>
Eco-governance	<b>\$43 billion by 2026</b> – estimated global market for environmental consulting, up from \$32 billion in 2020 <sup>(99)</sup>
Recovery toll	<b>\$580 billion by 2030</b> – cost of climate-related damage faced by vulnerable countries <sup>(100)</sup>

## Access Essential Resources

Living past scarcity	<b>AED 7.6 billion</b> – investment in new desalination plants in UAE <sup>(101)</sup>
Unexplored currencies	<b>7.2%</b> – global economy that is circular, out of 100 billion tons of virgin materials extracted annually <sup>(102)</sup>
Facing inequalities	<b>2.1 billion</b> – people currently without access to safe drinking water <sup>(103)</sup>
Optimizing living habits	<b>22.9%</b> – the household penetration rate by 2028 <sup>(104)</sup>
Energy appetite	<b>At least 50%</b> – energy consumption increase worldwide by 2050 <sup>(104)</sup>

## ECA Megatrends Report Conclusions

# A world of opportunity and beyond

While we are trying to innovate and advance, we should always strive for a balance between safe and positive futures for children, where parents and educators should not feel guilty but supported. "Preparing for the worst and hoping for the best", choosing our priorities with foresight. And this is the balance between the megatrends.

Ensuring a positive future for children involves a combination of various factors that contribute to their well-being, development, and success. Important factors contribute to the best future for children, such as quality education, healthcare and nutrition, safe and supportive environments, equal opportunities, early childhood development, digital literacy, critical thinking and problem-solving skills, emotional intelligence, environmental awareness, cultural diversity and inclusion, creativity and imagination, physical activity, interpersonal skills, parental involvement, access to arts and culture, gender equality and empowerment, global citizenship, adaptability and resilience but how can we best balance these for a changing future for which our actions today will have a long-lasting impact and effect?

**This report surfacing Megatrends is intended to contextualize our decisions while navigating priorities and uncovering some ramifications of our actions in a changing environment. The ultimate goal is to initiate and remind people of the importance of thinking about the future and preparing for the future, and, by doing so, creating resilience.**

By considering the Megatrends in unison and embedded in the current context we surface dynamics and patterns otherwise invisible. The assumptions – "that we have all the same perception of the present, and that there is only one possible future" – lead us to confusion and paralysis when things change and are not as expected. This report is intended as an initial guide with pointers to the Megatrends we should start noticing and considering, as individuals, government entities, academics, care givers, and parents. Anyone involved with the future of children should read it and try to embed insights and considerations or use it as a starting point for further research.

It is crucial to remember that these Megatrends are interconnected and a holistic approach is necessary to provide the best future for children. It's important for parents, caregivers, educators, and communities to collaborate in order to create an environment where children can thrive and reach their full potential.

## ECA Megatrends Report Recommendations

- 1. Develop a foresight integrated policy framework (FIPF):** Develop an integrated policy framework that recognizes the interconnectedness of the identified megatrends. Policies should be designed to address multiple aspects simultaneously, considering the holistic development of children and the complex interactions between megatrends.
- 2. Foresight and scenario planning across government and stakeholders:** Invest in research and scenario planning exercises to anticipate the potential futures outlined in the megatrends. This involves exploring various scenarios related to learning, the value of time, an ageless society, migration and urbanization, tech and humanity, misalignment, and beyond resources. By understanding possible future trajectories, policymakers can make informed decisions today.
- 3. Future-proof education transformation (FET):** Given the uncertainty in the future of learning, invest in flexible and adaptive education systems. Promote a curriculum that emphasizes critical thinking, problem-solving skills, digital literacy, soft skills (i.e. imagination, creativity, happiness, positivity, focus) and emotional intelligence. Consider the integration of emerging technologies into education while also recognizing the importance of interpersonal skills.
- 4. Anticipatory parental support programmes (APSP):** Recognize the evolving nature of parent-child relationships and create support programmes that help parents navigate the challenges posed by changing dynamics. Provide resources for parental education, mental health support, and guidance on fostering positive relationships with children in a rapidly evolving technological and societal landscape.
- 5. Future-proof infrastructure planning for urbanization:** Address the potential rural-urban trade-off by developing infrastructure that supports the well-being of children in urban environments, with a view of the changing environment, needs, values and culture. This includes creating safe and accessible spaces, quality education facilities, and healthcare services that are future-proofed. Additionally, consider policies that promote balanced urbanization to avoid overcrowding and its associated challenges.
- 6. Integrate healthcare and neurodiversity in a changing society:** Integrate considerations for neurodiversity into healthcare policies and educational frameworks. Develop specialized programmes and support systems to address the needs of children with autism and other neurodiversities, considering present and future changes affecting communities and society. Ensure that healthcare facilities are equipped to provide comprehensive care for children with diverse developmental needs.
- 7. Technology foresight ethics and regulation:** Address the challenges posed by the fusion of technology and humanity by developing ethical guidelines and regulations. Ensure that technology is harnessed to enhance, rather than hinder, the well-being of children. Emphasize the importance of digital literacy and responsible technology use in educational settings.
- 8. Sustainable resource optimization:** Encourage sustainable practices and responsible resource use for the future. Acknowledge that children can thrive with less if resources are allocated efficiently and with foresight in mind. Develop policies that promote environmental awareness, cultural diversity, and creativity without compromising the well-being of children. Linking future ramifications of present individual decision-making.
- 9. Foster resilience with community engagement and collaboration:** Facilitate collaboration between parents, caregivers, educators, communities, and government entities. Establish platforms for open dialogue and information sharing. Encourage joint initiatives to create environments that foster the holistic development of children.
- 10. Continuous monitoring and adaptation:** Implement mechanisms for continuous monitoring of evolving trends and their impacts on children. Be prepared to adapt policies and strategies based on emerging insights and changing circumstances.

This comprehensive approach acknowledges the complexity of the future landscape and emphasizes the importance of collaboration, adaptability, and a holistic perspective in shaping policies and strategies for the well-being of children in Abu Dhabi.

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