

# NEWS LETTER

STARTUPSCALE 360

ISSUE 12 • MAY 2023

## ANNUAL EDITION



### ANNUAL SPECIAL

Summer has kicked off, weather is getting hot and so is our newsletter. It has hit the another milestone, as we celebrate our **first annual publication**.

The highlight of our newsletter is the coverage of the delegation of **G20 Youth Entrepreneurs from India**. We also shine a spotlight on **ChatGPT** to raise awareness about the environmental impact of such innovations.

We share the highlights of resounding success of our first **bootcamp with TikTok** in Dubai. Continuing our commitment to fostering knowledge exchange, we joined hands with **Carson Business School of Washington State University** in Dubai.

We are thrilled to announce our partnership with **Hub71**, further solidifying our commitment to fostering a vibrant startup ecosystem. Lastly, we had the pleasure of attending the **StartAD's** event "**Academy for Women Entrepreneurs**"

STARTUPSCALE360  
NEWSLETTER

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भारत 2023 INDIA





**G20**  
Young Entrepreneurs'  
Alliance

**STARTUPSCALE 360**

**KCi**  
CONNECTING PEOPLE. CREATING MOMENTS.

**THE CORPORATE GROUP**

**EEA** جمعية رواد الأعمال الإماراتيين  
Emirati Entrepreneurs Association

**G20 YOUNG ENTREPRENEURS**  
REGIONAL ROADSHOW EVENT DUBAI  
MONDAY, MAY 8<sup>th</sup>



SAEED ALNOFELI, DIRECTOR  
IN5 INNOVATION CENTERS



SWETHAL KUMAR, CEO  
STARTUPSCALE FZE



AYMAN ALAWADHI, GROUP  
MD, THE CORPORATE GROUP



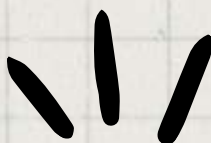
BEN KNOEFLER, CHAIRMAN  
KCI GROUP



SANJAY NADKARNI, HEAD OF  
INNOVATION & STRATEGY,  
ARABIAN FALCON HOLDING



VISHAL AGARWALLA, SHERPA  
G20 YOUNG ENTREPRENEURS



India is a host nation of G20 for the year 2023, so it was an honour to co-host a G20 Youth Entrepreneur delegation from India on 8 May 2023 at DUBAI FUTURE FOUNDATION, Dubai in collaboration with KCi Group, Emirati Entrepreneurs Association (EEA) and The Corporate Group

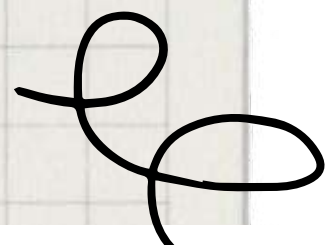
Ben Knoefler, Chairman, KCi Group introduced the G20 Young Entrepreneurs Alliance. While Ahmed AlRaeesi, Secretary General, Emirati Entrepreneurs Association (EEA) spoke about the importance of entrepreneurship, Ayman Al Awadhi, Group Managing Director, The Corporate Group talked about the advantages of doing a business in the UAE. Sanjay Nadkarni The Head of Investment and Strategy, Arabian Falcon Holding L.L.C shared its investment strategy. Swethal Kumar, CEO, Startupscale360 FZE painted the pictures of funding landscape in MENA and Saeed Alnofeli, Director, in5 Dubai emphasize the importance of In5 for building startup ecosystem in the UAE. Last but not the least, Vishal Agarwalla, Sherpa, G20 Young Entrepreneurs Alliance India shared about the upcoming G20yea summit 2023 in India.

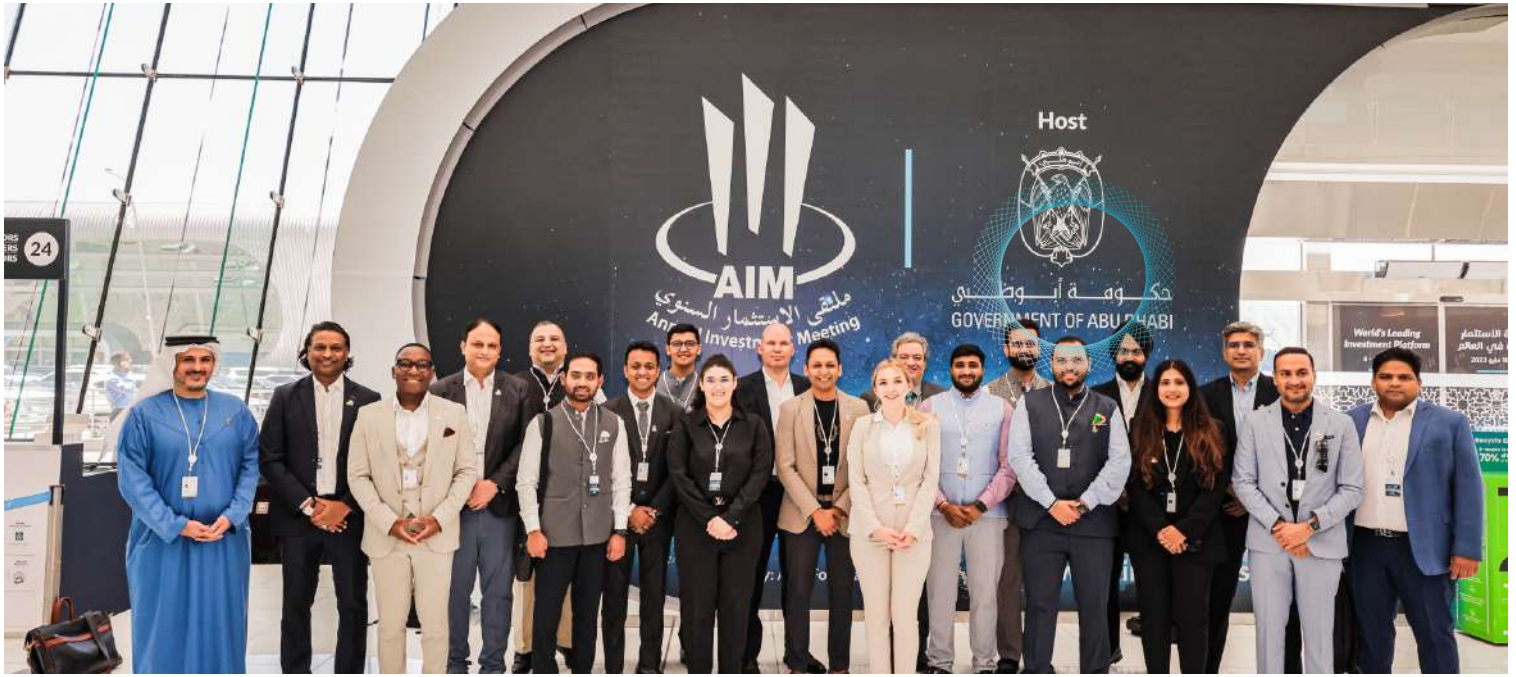
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## VISIT TO AIM 2023 EVENT IN ABU DHABI



## HUB71 BOOTH AT AIM 2023 EVENT

DELEGATION  
MEETING  
AHMED  
ALWAN, THE  
DEPUTY CEO  
OF HUB71



MEETING WITH LILIT HAROYAN,  
SENIOR MANAGER OF ENTERPRISE  
ARMENIA



THANKS TO MR. NAREK  
MKRTCHYAN, MINISTRY OF  
LABOUR AND SOCIAL  
AFFAIRS OF THE REPUBLIC  
OF ARMENIA FOR  
ORGANISING THE MEETING.





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*to watch the video of G20 YEA event in Dubai Future Foundation, Emirates Tower*

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*to watch the coverage of the event in*



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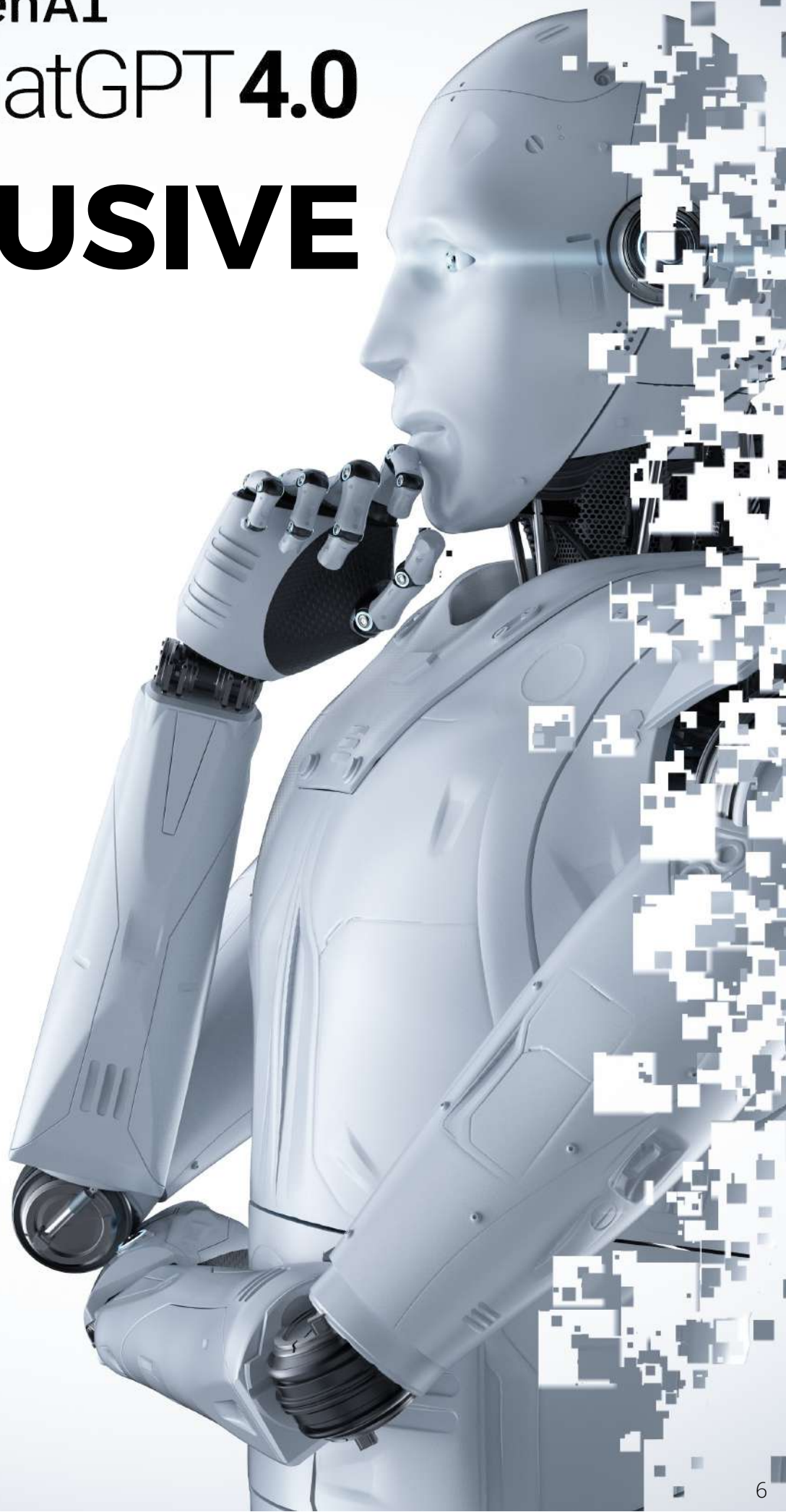
*Swethal Kumar, CEO, Startupscale360 FZE speaking about MENA funding landscape.*





OpenAI  
ChatGPT 4.0

**EXCLUSIVE**





# THINKS LIKE ONE HUMAN MIND, CONSUMES WATER LIKE MILLIONS !

Is AI sustainable?



**AI IS  
CHALLENGING  
HUMANS!**

AI is a revolutionary phenomenon which has been talked about for ages. Pop culture has played a major role in making AI popular as something that humans should fear, be it 2003: A Space Odyssey or the popular series terminator. AI is no more a plot element for blockbuster movies and has now become a reality and people are now in fear. Is it something worth the fear and attention or is AI being hyped up as a job snatching world ending creation as a marketing strategy, only time can tell. What's certain at the moment is that AI is already challenging humans to up their intellect and is doing it in the most human way possible by damaging the environment.

## »»» CHATGPT SAYS "DON'T BLAME ME!"

On asking ChatGPT how much water it consumes, the AI replies like a vetted diplomat denying any water consumption being an AI model and a software program. ChatGPT is right, it's the warehouse-scale data centers or physical "homes" where the majority of AI models, especially large ones like GPT-3 and GPT-4, are physically trained and deployed that consume massive amounts of energy, we were so focused on their energy consumption that we forgot how much water is involved in the process. Let's talk about the energy consumption first, these data centers account for about 2% of global electricity consumption leaving behind a significantly large carbon footprint. Data centers are held accountable for carbon footprint because of their (non-renewable) electricity usage. On our quest for cleansing the environmental damage, we are so focused on carbon footprint that we miss the other challenges and the same has happened in case of AI models and their freshwater consumption footprint.

## ABOUT THE AUTHOR



**AKASH KUMAR**

Akash Kumar works as the Head of Due Diligence with Startupscale360 FZE. He is responsible for screening all startup deals and performing detailed due diligence.

## STUDY BY UNIVERSITY OF COLORADO RIVERSIDE AND TEXAS

To put into perspective, the scale of the scenario, according to a recent study by the University of Colorado Riverside and University of Texas at Arlington in the United States, training GPT-3 in Microsoft's state-of-the-art U.S. data centers can directly consume 700,000 liters of clean freshwater (enough for producing 370 BMW cars or 320 Tesla electric vehicles) and the water consumption would have been tripled if training were done in Microsoft's Asian data centers. The combined water footprint of U.S. data centers altogether in 2014 was estimated at 626 billion liters. The same study which has pointed out this fact further delved deeper into exactly how much the consumption is but before that understanding more about the working of these data centers would help us get a clear picture about what's going wrong under the radar of public eyes. Data centers contain multiple machineries and complex electronics to keep the power input regular and in a well distributed manner any data centers would have a generator, power grid connection, automatic transfer switch that ensures continuous supply of power and power distribution systems in place. The servers are the main players here which are used for training and deploying the AI models, and one of the key motives or requirements for any data center is to keep these servers cool and hence enter cooling systems. Now that we have an understanding about the data centers, we can shift our focus towards the water footprint.

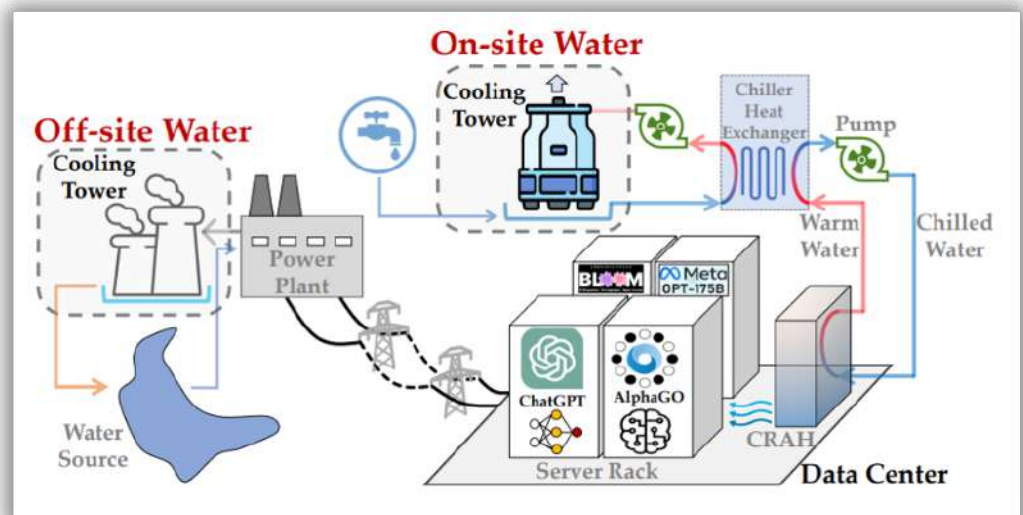


## ON-SITE AND OFF-SITE WATER

Water consumption refers to losing water in the process i.e., through evaporation or other factors. The water consumption in data centers has two parts: on-site direct water and off-site indirect water. Nearly every server's energy is converted into heat that must be removed from the data center server room to avoid overheating.

At present cooling towers are the most commonly used solution for cooling spaces in a warehouse scale. As it can be seen in the figure below, cooling towers operate in two sections: the water is brought into the cooling tower which forms an open loop with the Chiller/heat exchanger. The heat exchanger forms another loop with the servers, a closed loop where cold water draws heat from the server room and the heat exchanger cools the warm water to be pumped into the server room again. The water loss takes place in the open loop where some of the water evaporates in the cooling tower to dissipate heat into the environment. There is another process called "Blown Down" which involves draining of the cooling water to reduce salt concentration accumulated in the cooling tower. These two processes combined cause the consumption of water On-site. Additionally, freshwater is needed for humidity control to ensure proper server operation in data centers. Adding to these there is water consumption off site where the power generation takes place, these are also the spots accounting for major carbon footprint and water consumption depending on the type of power plant (hydro, nuclear etc..) and the type of cooling systems used along with other processes involved. It is to be noted that for these processes, freshwater is used to avoid corrosion of machineries, bacterial growth etc.

By one estimate, depending on climate conditions, roughly 3.8 liters of water are consumed for each kWh of cooling load (approx. equal to server energy) by an average data center, resulting in a water usage effectiveness (WUE) of 3.8 L/kWh, while some data centers can even use 5.2 L/kWh.







## »»» HOW MUCH WATER CHATGPT NEEDS?

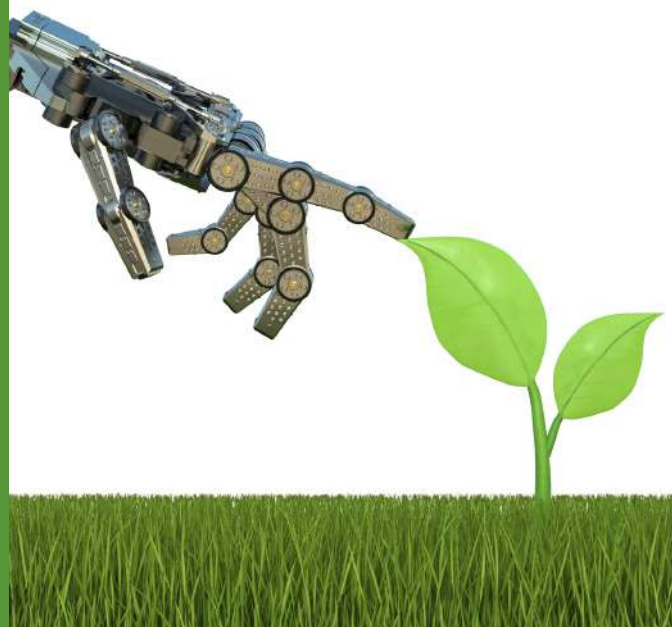
According to the study, ChatGPT needs to “drink” a 500ml bottle of water for a simple conversation of roughly 20-50 questions and answers, depending on when and where ChatGPT is deployed. While a 500ml bottle of water might not seem too much, the total combined water footprint for inference is still extremely large, considering ChatGPT’s billions of users. All these numbers are likely to increase by multiple times for the newly launched GPT-4 that has a significantly larger model size. Not just ChatGPT, Google is equally contributing through their data centers with their AI BARD and LaMDA ((Language Models for Dialog Applications). The data centers keep many details undisclosed which can be used to determine the water footprints, though appearing green in terms of carbon emissions, they might not so in water consumption for example a data center in Texas might get power from Solar plants but due to high temperatures will still need more cooling thus reducing water efficiency while maintaining emissions. The study further points out that judiciously deciding “when” and “where” to train a large AI model can significantly cut the water footprint. Overall, it seems that AI is still not sustainable. It is to be noted that these data centers are not just processing AI models, but the sudden advancements in AI and growing users and applications demand for more transparency about the water footprints which the data centers are hiding at the moment.

## »»» SOLUTIONS IN TECHNOLOGY ADVANCEMENTS

The study and data do indicate that our dear AI is not sustainable at the moment, but should that limit us from advancing forward? The answer is debatable as AI has many advantages and disadvantages. Solution is available again in terms of technological advancements i.e., improving the cooling systems, cleaner energy sources and improving the technology at every step of the entire process.

## EXPERT ADVICE

It should be pointed out that the startup ecosystem can contribute tremendously and in most impactful manner as they can come up with solutions technologically and with better process optimization, Investors pouring billions on ChatGPT and other AI models can help by also investing equally in startups that are developing technologies that compliment AI in such ways to make them more sustainable providing a win-win situation for everyone involved.



 TikTok

LO  
LUN  
GE!

STARTUPSCALE 360



BOOTCAMP



*Wanna have a glimpse of the Bootcamp? Check our YouTube video*

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We concluded our first bootcamp successfully in partnership with TikTok, which took place at TikTok Lounge, what an inspiring venue for entrepreneurs.

The room was houseful with young entrepreneurs and content creators, who found an incredible opportunity to enhance their content creation and promotion skills and connect with fellow creators. Our goal was to provide an inclusive environment for all participants to learn, start, grow and create with TikTok and connect with like-minded creators.

The bootcamp was packed with insightful sessions from Asma Ahmed, a TikTok specialist, who flew from Dublin to run the bootcamp. She shared her expertise and provided valuable insights to help participants elevate their content creation.

# WASHINGTON STATE UNIVERSITY



*Seasons of the Palouse*

# COLLABORATION



**STUDENTS 360**  
ENTREPRENEURSHIP  
PROGRAM



**Carson College  
of Business**

WASHINGTON STATE UNIVERSITY

As a startup ecosystem builder in the UAE, when we created Student360 program to help students from universities become entrepreneurs, our objective was to focused on the UAE universities, but never expected the program to go cross-border in the first few months. We were thrilled when we got the opportunity to work with WSU Carson College of Business.



Our CEO, Swethal Kumar, had a privileged to share the platform with other esteemed panelists Amna Al Dhahery, Sanjay Nadkarni, Pragnesh Shah, Sathar Al Karan (Art UAE) and Saab Somhoun in the Innovation Lab of The Emirates Academy of Hospitality Management (EAHM).

Pragnesh Shah, Founder and CEO of SehaaOnline, spoke about the online Healthcare marketplace solution in UAE and how SehaaOnline is catering the best brand names for Rehabilitation and Home care.



# WASHINGTON STATE UNIVERSITY ABU DHABI VISIT

## HUB71 Visit



Next day, we organized a tour for executive education students to Hub71 and Masdar City. A special thanks goes to Ahmad Alwan, Deputy CEO of Hub71, for the warm welcome extended to the delegation and to Helen Bachir for her insightful presentation on Hub71.



HUB71



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The visit to Masdar City, with the support of Sridhar Iyengar, Platform CFO of Mubadala and Niall Hannigan, CFO of Masdar, was a highlight for the Executive Education students to learn about sustainable and futuristic city. We would also like to express our gratitude to Michelle Sabti and Chris Wan from MasdarCity for hosting us and for their exceptional hospitality.



It was an honor to have Sultan Al Hajji and Rawdha AlMeraikhi share their valuable insights about MBZUAI (Mohamed bin Zayed University of Artificial Intelligence). To become one of the leading nations in AI by 2031 is the vision of the university, and in 3 years it already rank #19 globally. Kudos to Sultan Al Hajji and his exceptional team.



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Head of Investment  
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 <p><b>YEVGENY BEBNEV</b> CAPITAL MARKET, CRYPTOCURRENCY</p> <p>Organization: <b>BLOCKSTONE CAPITAL</b> Alumnus: <b>London Business School</b></p>	 <p><b>AKSHAY SINGH</b> DIGITAL HEALTH</p> <p>Organization: <b>IBM</b> Alumnus: <b>London Business School</b></p>	 <p><b>ARIZ RIZVI</b> BUSINESS DEVELOPMENT PROPTech SPECIALIST</p> <p>Organization: <b>property</b> Alumnus: <b>London Business School</b></p>	 <p><b>ARNAV RATH</b> FINTECH &amp; FINANCIAL SERVICES</p> <p>Organization: <b>London Business School</b> Alumnus: <b>London Business School</b></p>
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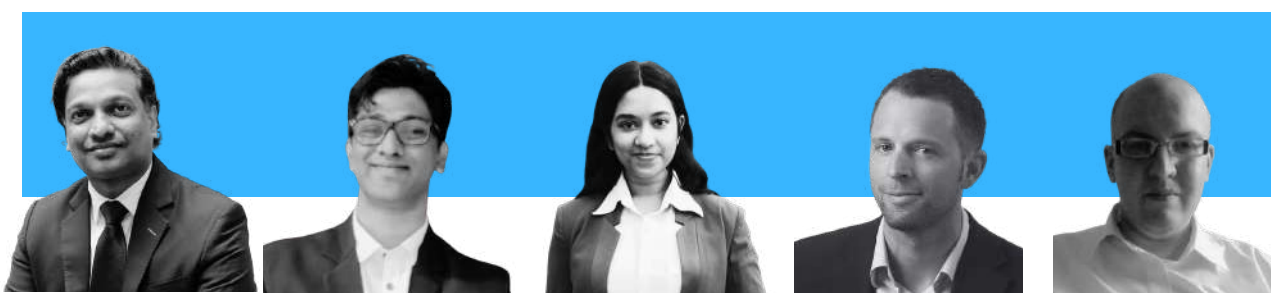
← A startup can book 30-min complimentary mentoring session with our experts.

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“World Class Team”



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**AKASH KUMAR** Head of Due Diligence India  
**RIYA CHATTERJEE** Ecosystem Lead India  
**RENE MASSATTI** Head of Playroom Austria  
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**VIKAS MOHANDAS** Head of Venture Studio UAE  
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STAY TUNED FOR OUR NEXT ISSUE



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Contact:  
Swethal Kumar  
founder & CEO