

# REVENUE OPTIMIZATION CONFERENCE

*A Commercial Strategy Event*



**SINGAPORE** 8-9 May 2024

# Blockchain Technology for Sustainable Hospitality

## REVENUE OPTIMIZATION CONFERENCE



**Prof. Detlev Remy**

Associate Professor

Singapore Institute of Technology & HSMAI Commercial Advisory Board



**Prof. Michael Kruesi**

Associate Professor

Hospitality Business Program, Singapore Institute of Technology



# Speakers



Assoc. Prof Dr Michael Kruesi



Assoc. Prof Dr Detlev Remy



- Professor of strategic management and sustainability at SIT since 2019.
- Previously worked as a Professor in Taiwan and NZ.
- Previously held various positions in hotels in NZ, Switzerland and Peru.
- Founder of **Xterra Tech** – A research-based and technology-driven company providing sustainability solutions for the hospitality and tourism industry.

# Speakers



Assoc. Prof Dr Michael Kruesi



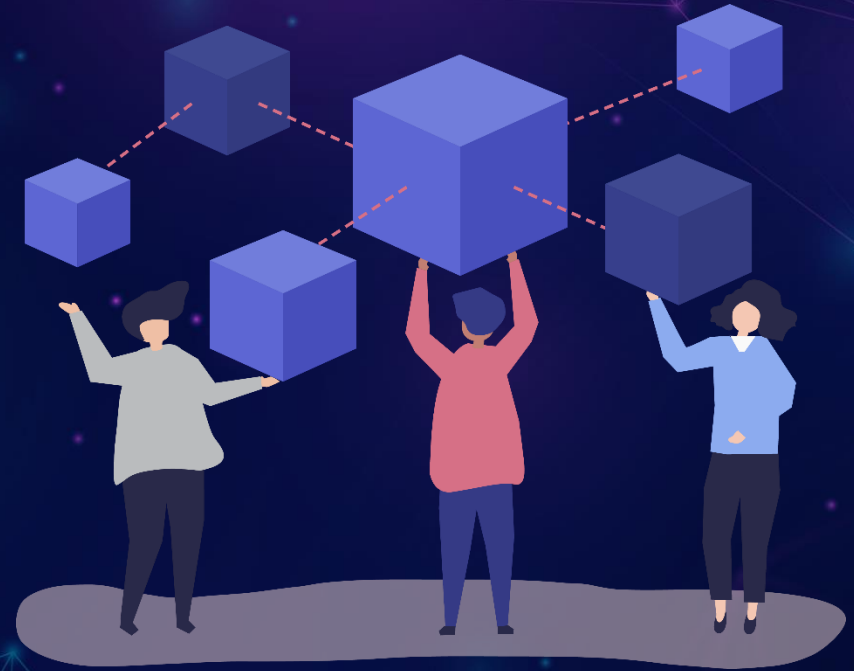
Assoc. Prof Dr Detlev Remy



- Professor of Revenue Management at SIT since 2016.
- Professor for Revenue Management at Laureate Universities 2007-2016, Switzerland.
- Various positions in the Hospitality Industry, Consultancy & Academia.
- Over 30 years hospitality industry experience. Founder of a consultancy business; **Remy Consult**, with clients in Germany, Ireland, UK, USA, Cambodia, Singapore etc.

# BLOCK BY BLOCK

Building a Technology-Based  
Foundation for Sustainable  
Hospitality Operations



# BLOCKCHAIN & SUSTAINABILITY

## PURPOSE

To explain the mechanics of blockchain technology and its implications for sustainability in the hospitality industry.

To provide industry stakeholders with a deeper understanding of blockchain's potential as an opportunity for innovation and improved sustainability practices.

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**What comes to mind first  
when you hear the term  
"Blockchain"?**

ⓘ Start presenting to display the poll results on this slide.

# BLOCKCHAIN & SUSTAINABILITY



The hospitality industry is increasingly integrating digital innovation with sustainable practices, with blockchain as a key catalyst.



Blockchain technology is now enabling a new digital era of operational efficiency, transparency, and environmental stewardship.



The technology's secure, decentralized nature revolutionizes interactions between hospitality businesses, guests, suppliers, and intermediaries.



Urgent need for the hospitality industry to adapt due to changing environmental dynamics, heightened guest expectations, and increasing regulatory pressures.



# BLOCKCHAIN FUNDAMENTALS

A decentralized digital ledger that records transactions across a network of computers, ensuring security, traceability, and irreversibility.

## Operational Structure:

- Transactions are validated through consensus algorithms.
- New transactions are added to the blockchain are immutable.



A transaction is initiated.



The requested transaction is first broadcast to a P2P network of nodes.



The network of nodes then validates the transaction.



The transaction is complete.



The new block is added to an existing blockchain, in a way that is immutable i.e., it is permanent and unalterable.



Once validated, the transaction is then combined with other transactions to create a new block of data.

# BLOCKCHAIN IN HOSPITALITY AND TOURISM



## Payments

- Cryptocurrencies, simplify and secure payment processes.
- Speed up transactions.
- Particularly effective for international transactions.



## Loyalty Programs

- Real-time transaction processing.
- Seamless transfer and redemption of points.
- Integration of offers across industry partners.



## Data Privacy

- Superior data privacy and security.
- Reduced risk of identity theft.
- Enabling the maintenance of accurate and secure customer records.



## Distribution

- More direct and cost-effective.
- Challenging traditional distribution.
- Democratize access to travel services, aiding smaller providers.



## Storage & Access

- Simplifies storage and access of data.
- Promoting enhanced collaboration among travel service providers.
- Enhances the overall travel and lodging experience for customers.

# DECENTRALIZATION FOR EFFICIENCY & SUSTAINABILITY



- Decentralization enhances efficiency and sustainability in the hospitality industry by shifting control from central authorities to a distributed network.
- Reduces the need for intermediaries like OTAs and payment processors, lowering transaction costs and times, increasing profit margins for hotels.
- Supports sustainability through initiatives like:
  - Tokenized rewards for eco-friendly behavior by guests.
  - Decentralized energy trading systems between hotels.
  - Enhanced waste management through verifiable tracking.

# TRANSPARENCY, ACCOUNTABILITY, AND STAKEHOLDER ENGAGEMENT

- Enhanced transparency and accountability, improves stakeholder engagement and satisfaction.
- Aids hotels to substantiate their sustainability claims, building trust among stakeholders, ensuring regulatory compliance and mitigating accusations of greenwashing.



Increased job satisfaction and loyalty among employees.

**Employees**



Ensures fair practices for suppliers and vendors. Enhances collaboration among partners.

**Suppliers & Partners**



Personalizes guest experiences, automates services, enhances satisfaction and loyalty.

**Guests**

# OPTIMIZING RESOURCES WITH SMART CONTRACTS

## Energy Management:

Adjust lighting and climate control based on real-time occupancy.



## Water Conservation:

Real-time monitoring and control, when integrating IoT devices.



## Waste Management:

Increased efficiency and compliance.



## Supply Chain Sustainability:

Ensuring adherence to environmental standards.



## Guest Involvement:

Reward guests for participating in sustainable practices.



## Carbon credit systems:

Automating the acquisition and retirement of carbon credits.





# PROMOTING SUSTAINABLE TOURISM AND ECONOMIC INCENTIVES IN PRACTICE

Real-world applications of blockchain are demonstrating practical use cases.

01

The facilitation of making more sustainable choices.

02

The Incentivization of sustainable business practices.

03

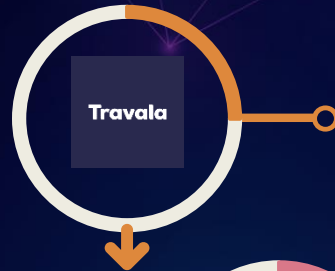
The Promotion of local products and experiences.

04

The facilitation of visibility on booking platforms.

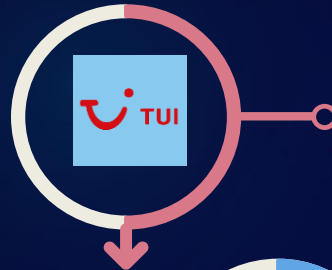
# PROMOTING SUSTAINABLE TOURISM AND ECONOMIC INCENTIVES IN PRACTICE

Blockchain-enabled platforms can offer travelers a wider range of sustainable lodging and activity options, making it easier for consumers to make eco-friendly choices.



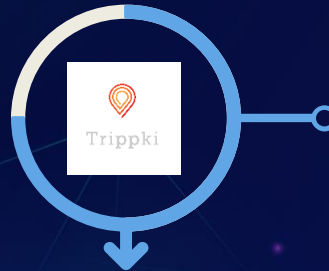
Travala offers a wide range of accommodations, allowing users to pay with cryptocurrencies in their native token AVA.

Blockchain enables transparent funding mechanisms for sustainability projects, allowing hotels and guests to support local and global initiatives through secure transactions, enhancing funding and strengthening community ties.



Bed-Swap by TUI optimizes resource use and supports sustainability by managing inventory efficiently, reducing the need for excessive infrastructure through a blockchain initiative.

Blockchain can create economic incentives for hospitality businesses to adopt sustainable practices. This not only rewards sustainable practices but also encourages other businesses to improve their environmental performance.



Trippki rewards guests with TRIP tokens for their stays, fostering a loyalty system that promotes environmental awareness and enhances hotels' green credentials.

# IMPLEMENTING BLOCKCHAIN SOLUTIONS

- As the hospitality industry continues to evolve, integrating blockchain technology offers strategic advantages by enhancing operational efficiency, guest satisfaction, and sustainability.
- However, it must be noted that this will be a lengthy process and that there will be challenges that need to be navigated.



# STEPS FOR EFFECTIVE IMPLEMENTATION INCLUDE

01

## Initial Inquiry and Information

### Gathering:

Identify areas for blockchain based applications, research service providers, and align potential solutions with business goals.

02

## Technical Assessment:

Check current IT infrastructure for compatibility with blockchain, and choose the right platform based on security, scalability, and control needs.

03

## Agreement and Onboarding:

Formalize partnerships with detailed service agreements, and initiate onboarding with technical support and training for smooth integration.

04

## Integration and Testing:

Integrate the blockchain with existing systems, configure necessary hardware and software, and conduct thorough testing to ensure functionality.

05

## Launch and Promotion:

Launch the solution with strategic marketing informing guests and stakeholders of the benefits, emphasizing security, efficiency, and sustainability.

06

## Ongoing Support and Evaluation:

Maintain support with the blockchain provider and regularly evaluate system performance to refine and optimize the solution.

# NAVIGATING CHALLENGES

## Implementation Challenges:

- **Compatibility and Interoperability:** Ensuring blockchain solutions integrate smoothly with existing IT infrastructures, including legacy systems.
- **Cost Implications:** Assessing the significant initial investment against long-term benefits.
- **Scalability Challenges:** Ensuring blockchain solutions can handle the diverse scale of operations and transaction volumes.
- **Security Concerns:** Addressing vulnerabilities introduced during the integration process, especially in data transition phases.

## Regulatory Challenges:

- Navigating diverse legal frameworks worldwide.
- Examples include:
  1. General Data Protection Regulation (GDPR)
  2. Anti-money laundering (AML) compliance

## Ethical Considerations:

- Balancing the benefits of enhanced transparency and security against potential issues like:
  1. Tax evasion
  2. Illicit activities
  3. Job displacement

Overcoming these challenges involves meticulous attention and strategic planning, the regulatory landscape, the technological integration with existing systems, and ethical implications.



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**What are the biggest challenges you foresee in integrating blockchain technology into your current business processes?**

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# LOOKING FORWARD

**Fostering Collaboration:** Successful blockchain adoption requires collaboration among hotels, technology providers, regulatory bodies, and other stakeholders to ensure solutions are practical, scalable, and compliant. Cross-sector initiatives could also provide valuable insights and applications from other industries.

**The Path Forward:** The hospitality industry must commit to continuous innovation, cross-sector collaboration, and proactive regulatory engagement to fully harness blockchain's potential, improving sustainability, operational efficiency, and setting new standards for responsible business practices.

01

**Embracing Innovation:** Hospitality businesses must keep up with rapid technological advancements in blockchain to enhance sustainability and operational efficiencies. Innovations could lead to more secure and efficient transactions, advanced smart contracts, and better integration with technologies like IoT and AI.

02

03

**Navigating the Evolving Regulatory Landscape:** The hospitality industry needs to engage with policymakers to understand and influence developing regulations around blockchain and cryptocurrencies, ensuring solutions are compliant and promote transparency and fairness.

04

# CALL TO ACTION

## Embrace Continuous Learning:

Stay informed about blockchain advancements to remain competitive.



## Innovate Responsibly:

Ensure innovation contributes to sustainability, ethical practices, and social objectives.

## Engage in Collaboration:

Foster partnerships across the industry and with external stakeholders for successful blockchain implementation.

## Advocate for Supportive Regulations:

Participate in regulatory dialogues to shape favorable frameworks for blockchain in hospitality.

## Pilot and Scale Solutions:

Test blockchain applications through pilot projects and scale successful ones across operations.

# SUMMARY



Embrace blockchain technology not just as a tool for operational improvement, but as a catalyst for sustainable, responsible, and inclusive growth.

The journey ahead is not going to be easy, especially for the pioneers. However, it will be the early adopters that will have the first mover advantage!



# SUMMARY

- Blockchain technology offers the hospitality industry an opportunity to improve sustainability, efficiency, and equitable benefits distribution.
- By proactively embracing blockchain, the industry can set a benchmark for digital innovation, promoting sustainable, responsible, and inclusive growth.
- The industry is encouraged to view blockchain as a catalyst for positive transformation, embarking on a journey of discovery, innovation, and transformation towards a more sustainable future.





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