# Article information:

TMC and Kongsberg Digital Announce Next Phase of Agreement to Bring AI and Hybrid Machine Learning to Future Deep-sea Nodule Collection Operations | Technology | News  
<https://www.oceanminingintel.com/news/technology/tmc-and-kongsberg-digital-announce-next-phase-of-agreement-to-bring-ai-and-hybrid-machine-learning-to-future-deep-sea-nodule-collection-operations>

# Article summary:

1. TMC and Kongsberg Digital are collaborating to develop AI and hybrid machine learning technology for deep-sea nodule collection operations. The partnership aims to create a Digital Twin of the deep-sea operating environment, incorporating additional data streams to train AI models and determine key outcomes of the production system.

2. The extensive range of data gathered through marine sensors will enable 3D visualization of deep-sea operations in a dynamic dashboard, providing transparency for stakeholders. The AI-driven virtual operating environment is expected to be one of the most transparent natural resource projects in history.

3. TMC plans to build an advanced environmental monitoring system (AMS) that uses operational and environmental data to keep deep-sea activities within ecological thresholds set by the International Seabed Authority. The AMS will leverage expert opinion and hybrid machine learning to improve operational efficiencies and potentially reduce environmental impacts over time.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

这篇文章介绍了TMC和Kongsberg Digital之间的合作，旨在将人工智能（AI）和混合机器学习引入未来的深海结核采集操作中。文章提到，通过数字孪生技术，可以对深海操作环境进行建模，并使用额外的数据流训练AI模型以确定全面生产系统的关键结果，包括机器人收集器对海底环境的影响。此外，该公司计划开发先进的自适应管理系统（AMS），以确保其深海活动符合国际海床管理局设定的生态阈值。

然而，这篇文章存在一些潜在偏见和不完整报道。首先，文章没有提及可能存在的风险和负面影响。尽管提到了减少环境影响的目标，但并没有详细说明如何实现这一目标或可能出现的问题。此外，文章过于强调了数字孪生技术和AI在项目中的优势，但没有提供足够的证据来支持这些主张。

另一个问题是缺乏平等地呈现双方观点。文章主要关注TMC和Kongsberg Digital之间的合作，并且只引用了他们高度赞扬该合作关系的言论。然而，缺少其他利益相关者的观点，如环保组织或当地社区的声音。这种片面报道可能导致读者对该项目的整体影响和可持续性产生疑问。

此外，文章没有提供关于数字孪生技术和AMS如何确保透明度和监管的详细信息。虽然提到了监管机构可以通过交互式仪表板实时监测项目进展，但并没有说明这些数据将如何被使用或共享给利益相关者。缺乏这些细节可能导致对项目的透明度和问责制产生质疑。

最后，文章没有探讨AMS在其他领域的潜在应用，并且没有提供关于该技术是否具有商业化前景或可扩展性的信息。这种宣传性内容可能会误导读者对该技术的实际价值和应用范围产生错误印象。

总之，尽管这篇文章介绍了TMC和Kongsberg Digital之间合作的一些潜在好处，但它存在一些偏见、片面报道和缺失考虑点的问题。为了提供更全面、客观的报道，需要更多关于风险、透明度、监管以及技术应用范围等方面的信息。

# Topics for further research:

* TMC and Kongsberg Digital collaboration
* Potential risks and negative impacts
* Achieving environmental goals and addressing potential issues
* Lack of equal representation of stakeholders' perspectives
* Transparency and regulation of digital twin technology and AMS
* Potential applications and commercial viability of AMS

# Report location:

<https://www.fullpicture.app/item/34839709d6ff6c5c702ab2d81ca6be82>