



AURORA EXHIBITIONS

Science Communication through International Cooperation

Science Tourism: services and products for Dancing with the Lights - Aurora exhibitions

Objectives:

- to design new science exhibition related services and products for tourism sectors and its customers
- to enhance attractiveness of related places and to secure new opportunities for local companies
- to improve the understanding of local environmental, cultural and social dynamics
- to promote entrepreneurship to realize the potential of 'place-based' development opportunities for tourism and experience industries based on the area unique natural environmental, indigenous lifestyles and creative industries

Science Tourism: services and products for Dancing with the Lights - Aurora exhibitions

Approach:

1. Conceptualizing science tourism as a service offered to tourists and based on expertise in science communication, informal learning environment and tourism activity design
2. Designing the first multi-locational, inter-operable Dancing with the Lights - Aurora exhibition, related services and products
3. Producing education material and training sessions based on the Aurora exhibition for educating the guides as explainers
4. Producing and piloting the exhibition and related services and products
5. Pilot phase and offering the scientific tourism services

Partners in Preparatory Project :

- Arctic Centre, University of Lapland, Finland
- Arctic Portal, Iceland
- International Centre for Reindeer Husbandry, Norway
- University of Iceland, Science Institute, Iceland
- Aurora Observatory, Iceland
- Rovaniemi Tourism & Marketing Ltd, Finland
- The North Iceland Marketing agency, Iceland

Partners now added to the consortium:

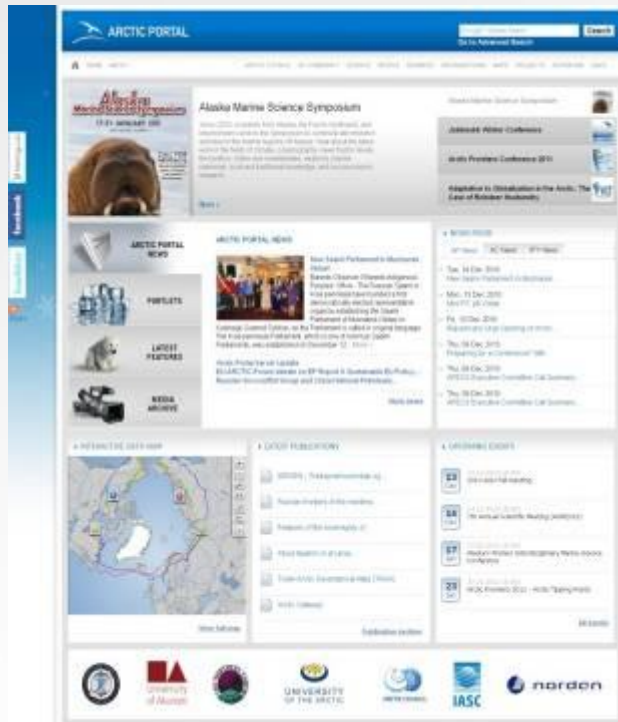
- Partners from Norway, Ireland, Russia, Canada, USA and China

- The Gateway to Arctic Information and Data
- Welcomed in the Arctic Council Ministerial Declaration in 2006
- Well educated 15 staff members from 8 nationalities
- Partners in several international projects and forums:
 - European Polar Board, SAON, ADC, CNARC, CIAO, NVF, Iceland Arctic Cooperation Network, EU Arctic Information Centre, Uarctic, Arctic Energy Summit, AREA, APPLICATE, IPA, GTN-P

Arcticportal.org

Arctic Portal Community

Cooperation and Consultation



Arcticportal.org – The Arctic Information Gateway

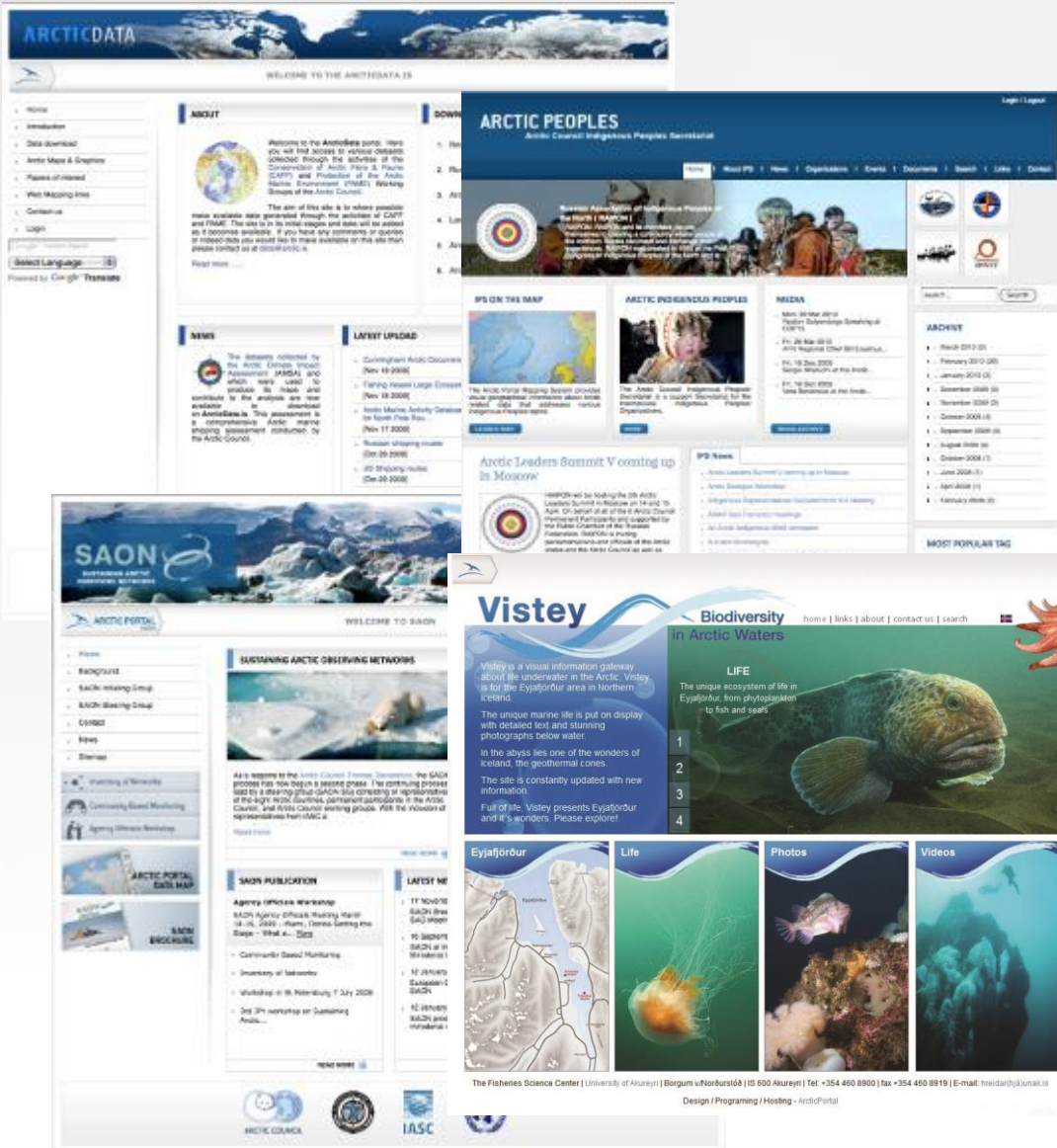
The screenshot displays the Arctic Portal website interface. At the top, the header reads "ARCTIC PORTAL - THE ARCTIC GATEWAY". Below the header, there are navigation tabs for "NEWS", "FEATURES", and "ARCTIC NEWS". The main content area is divided into several sections:

- News:** A featured article titled "New study confirms oil formations in Drekki" with a satellite image of the Arctic region.
- Arctic Circle:** A section titled "New program available" regarding the Arctic Circle Assembly, with a circular logo.
- Greenland ice sheet:** A news item titled "Greenland ice sheet slowed down" with a satellite image of the ice sheet.
- PCECLM 2015:** A news item titled "PCECLM 2015 announced" with a photo of people.
- PCBs:** A news item titled "PCBs to decline in the Arctic" with a photo of a polar bear.
- Map:** An interactive map of the Arctic region with various controls.
- Arctic Data Interface:** A large banner for the "Arctic Circle 2014" breakout session, dated "OCTOBER 31 - NOVEMBER 2 REYKJAVIK, ICELAND". It includes the text: "The Arctic Data Interface, Arctic Portal Breakout Session 31st of October, h 17.00 - 20.00".
- Media Archive:** A section for "ARCTIC NEWS" with a list of recent publications.
- Arctic Data:** A section for "ARCTIC DATA" with a list of publications.
- Publications:** A section for "PUBLICATIONS" with a list of upcoming events.
- Arctic Council:** A section for "ARCTIC COUNCIL" with a list of community members.

At the bottom of the page, there are logos for various partner organizations, including the University of Alaska, Arctic Council, IASC, and the Government of Nunavut.

- Arctic Information Gateway
- Access to information
- Information sharing
- Educational material
- Arctic News, Events Calendar, Multimedia Library, Interactive Mapping, Advance Search, Live Events, Arctic Data, Publications
- English as the language of information
- **Russian and Chinese translations coming soon...**

Association of Polar Early Career Scientists (APECS), Sustaining Arctic Observation Networks (SAON) Arctic Maritime and Aviation Transportation Infrastructure (AMATII), ArcticHYDRA, Fishernet.is, International Arctic Science Committee (IASC), International Arctic Social Sciences Association (IASSA), International Centre of Reindeer Husbandry (ICR), International Permafrost Association (IPA), Icelandic – Arctic Cooperation Network, EU Arctic Information Centre, Page21, Arctic Data Com (ADC), Arctic Yearbook, Arctic Renewable Energy Atlas, Pacific Arctic Group (PAG), China-Nordic Arctic Cooperation Network (CNARC), Seelceland.is, Indigenous Peoples Secretariat (IPS) and many more...



- I. **AURORA** - Science Tourism: services and products for Dancing with the Lights - Aurora exhibitions
- II. **EDU-ARCTIC** - Innovative educational program attracting young people to natural sciences and polar research – Horizon 2020, 2 m euro
- III. **APPLICATE** - Advanced Prediction in Polar regions and beyond: Modelling, observing system design and linkages associated with a changing Arctic climate – Horizon 2020, 9 m euro
- IV. **GTN-P** - Global Terrestrial Network for Permafrost – Funded originally through EU funded 7 framework project PAGE21, 7 m euro
- V. **AREA** – Arctic Renewable Energy Atlas. SDWG Arctic Council endorsed project lead by US State department, co lead by Canada. Project management by Institute of the North and Arctic Portal. Mapping the renewable resources of the North.
- VI. **PPR** – EPPR Arctic Council project. Mapping preparedness and response capabilities in over 300 smaller communities of the North

VII. PRO-ACTIVE ARCTIC DIVING - a Proof of Concept (PoC) of sustainable management of marine resources by providing continuous and standardized monitoring of the underwater performed by divers and by innovation and cooperation for the joint business on Arctic diving in the NORA region.

VIII. N-Tech - a system and service of locating, retrieving and managing Arctic-related data, providing services for analyzes and visualization in tailored-made formats according to specific needs of a customer.

IX. Business and Cultural database of the North. Over-view of and support to SME's, local and regional governments. Project in cooperation with the Northern Forum and the Arctic Economic Council.

X. AMATII – complete database of Arctic Marine and Aviation Transportation Infrastructure. Arctic Council SDWG project in cooperation with the 8 coastguards.

XI. ARICE – Coordination of Arctic Research vessels and Icebreakers – Horizon 2020



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[STAÐSETNING](#)

[VÍSINDASAMSTARFIÐ](#)



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THE AURORA OBSERVATORY

The Polar Research Institute of China (PRIC) and The Icelandic Centre for Research (RANNIS) have signed an agreement on the formation of a joint centre for the exploration of the aurora borealis phenomena. The China-Iceland Joint Aurora Observatory (CIAO) will be based at Karholl, N-Iceland

THE SCIENTIFIC COOPERATION

The aim of this research cooperation is to further the scientific understanding on solar-terrestrial interaction and space weather by conducting polar upper atmosphere observations, such as auroras, geomagnetic field variations and other related phenomena and outreach to the public.

- The Aurora Observatory is a scientific cooperation between Icelandic and Chinese research institutions in ownership of a locally established non-for-profit fund.
- The aim of this cooperation is to further the scientific understanding on solar-terrestrial interaction and space weather by conducting polar upper atmosphere observations and outreach to the public.
- It is expected that Chinese scientists and other international visiting scientists will be doing research at the observatory and staying at the research centre.
- The partnership with Chinese scientists can open for the possibility of cooperation in other fields of Arctic science, particularly in the field of science and natural sciences, such as biology and climate research.
- All observation data will be made available and open to the international scientific community.
- Station to open for research in October this year.

Research partners:

Iceland: The Icelandic Centre for Research, Science Institute of the University of Iceland, the Icelandic Meteorological Office, The University of Akureyri, the Icelandic Arctic Cooperation Network, Húsavík Academic Center, Arctic Portal.

China: Polar Research Institute of China, National Space Science Center, Chinese Academy of Sciences (CAS); Institute of Geology and Geophysics, CAS; China Research Institute of Radio Wave Propagation; National Center for Space Weather; Institute of Space Physics and Applied Technology, Peking University; School of Electronic Information, Wuhan University; School of Earth and Space Science, University of Science and Technology of China; School of Space Science and Physics, Shandong University.

The building – 760 m² on three floors



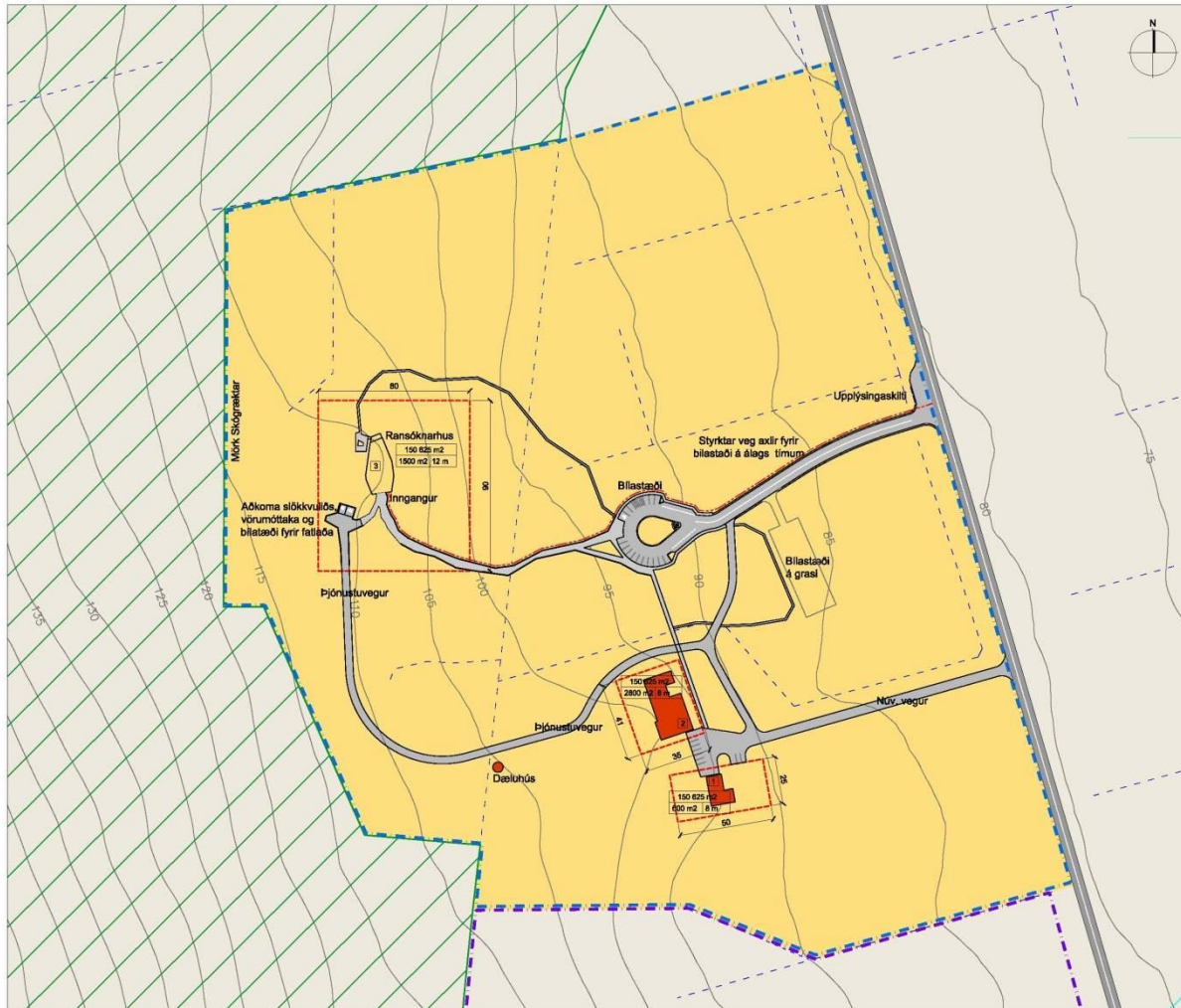
Inauguration of the site on June 2. 2014



Construction started in June 2015!



Site plan for Kárhóll, Reykjadalur



KÁRHÓLL
Þingeyjarsveit, landnr. 135774

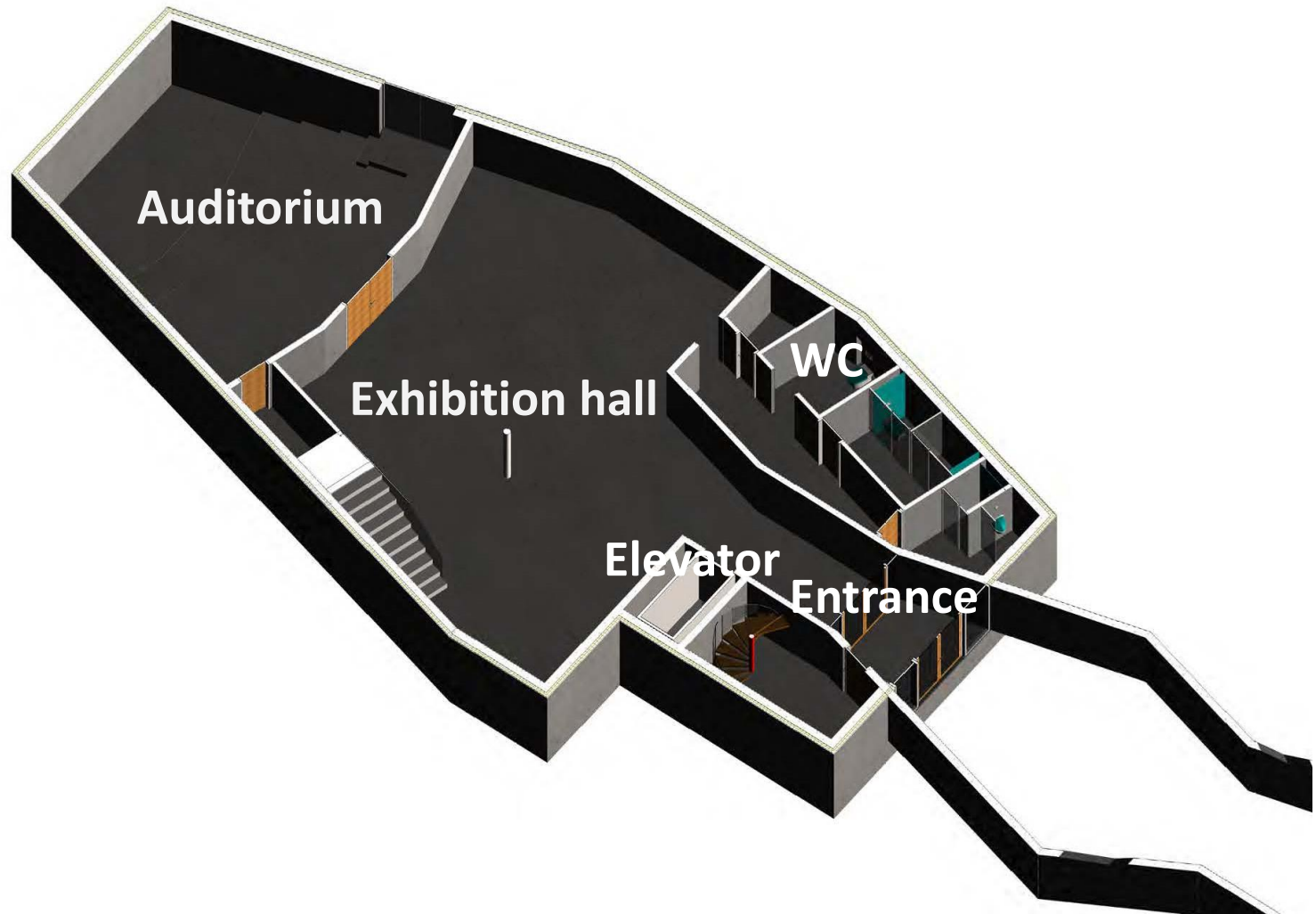
Hæð 130 - 1300
Dagp. 20. september 2014

Dölesskipulagsuppdráttur

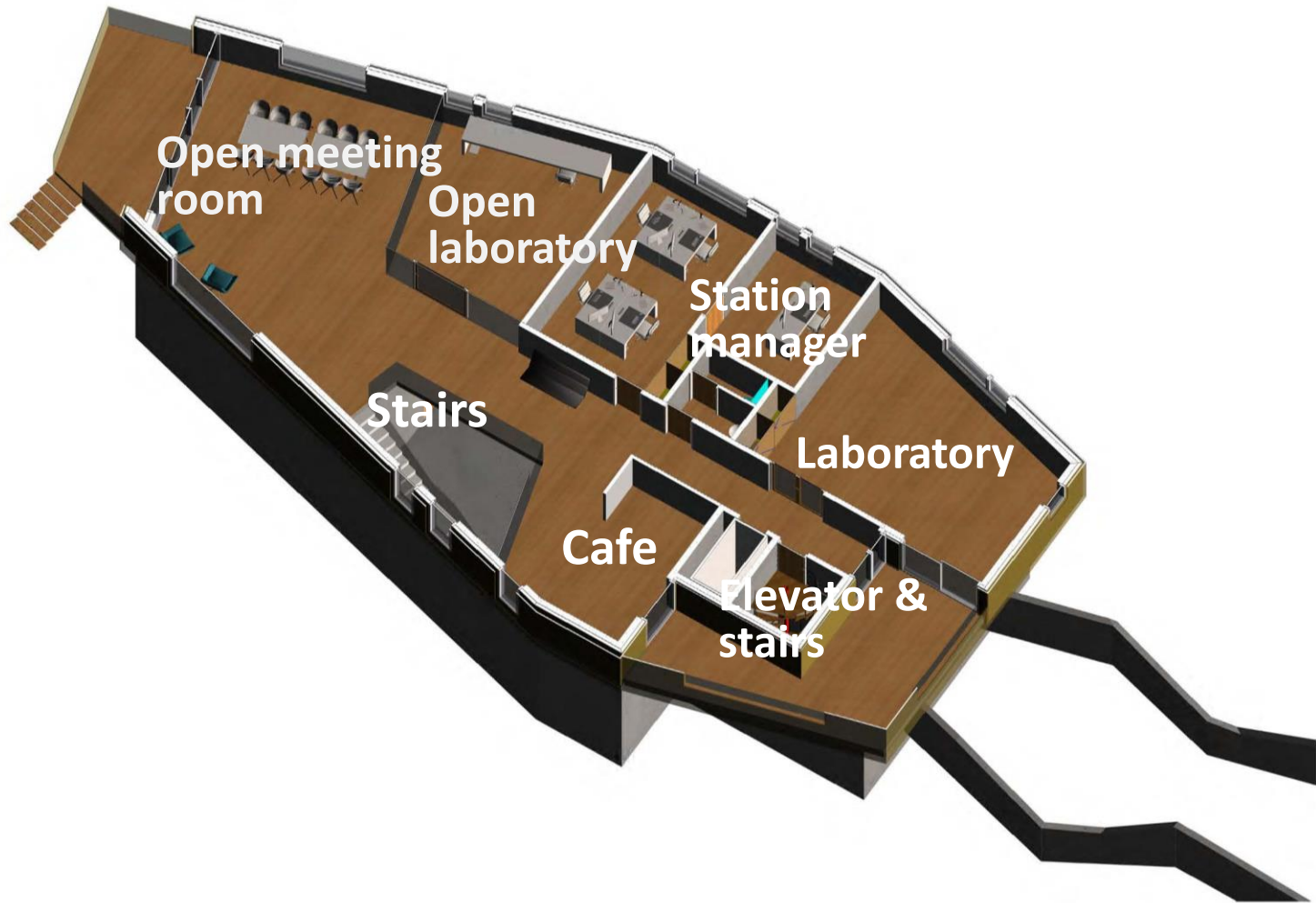
Tel.nr. 1
Láttmynd og bætt mynd gættur tegna þá
Láttmynd 400

Skýringar 12, 402 Aukamyri / 401-402 / 403 / 404 / 405 / 406 / 407 / 408 / 409 / 410 / 411 / 412 / 413 / 414 / 415 / 416 / 417 / 418 / 419 / 420 / 421 / 422 / 423 / 424 / 425 / 426 / 427 / 428 / 429 / 430 / 431 / 432 / 433 / 434 / 435 / 436 / 437 / 438 / 439 / 440 / 441 / 442 / 443 / 444 / 445 / 446 / 447 / 448 / 449 / 450 / 451 / 452 / 453 / 454 / 455 / 456 / 457 / 458 / 459 / 460 / 461 / 462 / 463 / 464 / 465 / 466 / 467 / 468 / 469 / 470 / 471 / 472 / 473 / 474 / 475 / 476 / 477 / 478 / 479 / 480 / 481 / 482 / 483 / 484 / 485 / 486 / 487 / 488 / 489 / 490 / 491 / 492 / 493 / 494 / 495 / 496 / 497 / 498 / 499 / 500 / 501 / 502 / 503 / 504 / 505 / 506 / 507 / 508 / 509 / 510 / 511 / 512 / 513 / 514 / 515 / 516 / 517 / 518 / 519 / 520 / 521 / 522 / 523 / 524 / 525 / 526 / 527 / 528 / 529 / 530 / 531 / 532 / 533 / 534 / 535 / 536 / 537 / 538 / 539 / 540 / 541 / 542 / 543 / 544 / 545 / 546 / 547 / 548 / 549 / 550 / 551 / 552 / 553 / 554 / 555 / 556 / 557 / 558 / 559 / 560 / 561 / 562 / 563 / 564 / 565 / 566 / 567 / 568 / 569 / 570 / 571 / 572 / 573 / 574 / 575 / 576 / 577 / 578 / 579 / 580 / 581 / 582 / 583 / 584 / 585 / 586 / 587 / 588 / 589 / 590 / 591 / 592 / 593 / 594 / 595 / 596 / 597 / 598 / 599 / 600 / 601 / 602 / 603 / 604 / 605 / 606 / 607 / 608 / 609 / 610 / 611 / 612 / 613 / 614 / 615 / 616 / 617 / 618 / 619 / 620 / 621 / 622 / 623 / 624 / 625 / 626 / 627 / 628 / 629 / 630 / 631 / 632 / 633 / 634 / 635 / 636 / 637 / 638 / 639 / 640 / 641 / 642 / 643 / 644 / 645 / 646 / 647 / 648 / 649 / 650 / 651 / 652 / 653 / 654 / 655 / 656 / 657 / 658 / 659 / 660 / 661 / 662 / 663 / 664 / 665 / 666 / 667 / 668 / 669 / 670 / 671 / 672 / 673 / 674 / 675 / 676 / 677 / 678 / 679 / 680 / 681 / 682 / 683 / 684 / 685 / 686 / 687 / 688 / 689 / 690 / 691 / 692 / 693 / 694 / 695 / 696 / 697 / 698 / 699 / 700 / 701 / 702 / 703 / 704 / 705 / 706 / 707 / 708 / 709 / 710 / 711 / 712 / 713 / 714 / 715 / 716 / 717 / 718 / 719 / 720 / 721 / 722 / 723 / 724 / 725 / 726 / 727 / 728 / 729 / 730 / 731 / 732 / 733 / 734 / 735 / 736 / 737 / 738 / 739 / 740 / 741 / 742 / 743 / 744 / 745 / 746 / 747 / 748 / 749 / 750 / 751 / 752 / 753 / 754 / 755 / 756 / 757 / 758 / 759 / 760 / 761 / 762 / 763 / 764 / 765 / 766 / 767 / 768 / 769 / 770 / 771 / 772 / 773 / 774 / 775 / 776 / 777 / 778 / 779 / 780 / 781 / 782 / 783 / 784 / 785 / 786 / 787 / 788 / 789 / 790 / 791 / 792 / 793 / 794 / 795 / 796 / 797 / 798 / 799 / 800 / 801 / 802 / 803 / 804 / 805 / 806 / 807 / 808 / 809 / 810 / 811 / 812 / 813 / 814 / 815 / 816 / 817 / 818 / 819 / 820 / 821 / 822 / 823 / 824 / 825 / 826 / 827 / 828 / 829 / 830 / 831 / 832 / 833 / 834 / 835 / 836 / 837 / 838 / 839 / 840 / 841 / 842 / 843 / 844 / 845 / 846 / 847 / 848 / 849 / 850 / 851 / 852 / 853 / 854 / 855 / 856 / 857 / 858 / 859 / 860 / 861 / 862 / 863 / 864 / 865 / 866 / 867 / 868 / 869 / 870 / 871 / 872 / 873 / 874 / 875 / 876 / 877 / 878 / 879 / 880 / 881 / 882 / 883 / 884 / 885 / 886 / 887 / 888 / 889 / 890 / 891 / 892 / 893 / 894 / 895 / 896 / 897 / 898 / 899 / 900 / 901 / 902 / 903 / 904 / 905 / 906 / 907 / 908 / 909 / 910 / 911 / 912 / 913 / 914 / 915 / 916 / 917 / 918 / 919 / 920 / 921 / 922 / 923 / 924 / 925 / 926 / 927 / 928 / 929 / 930 / 931 / 932 / 933 / 934 / 935 / 936 / 937 / 938 / 939 / 940 / 941 / 942 / 943 / 944 / 945 / 946 / 947 / 948 / 949 / 950 / 951 / 952 / 953 / 954 / 955 / 956 / 957 / 958 / 959 / 960 / 961 / 962 / 963 / 964 / 965 / 966 / 967 / 968 / 969 / 970 / 971 / 972 / 973 / 974 / 975 / 976 / 977 / 978 / 979 / 980 / 981 / 982 / 983 / 984 / 985 / 986 / 987 / 988 / 989 / 990 / 991 / 992 / 993 / 994 / 995 / 996 / 997 / 998 / 999 / 1000

The building – ground floor – exhibition centre

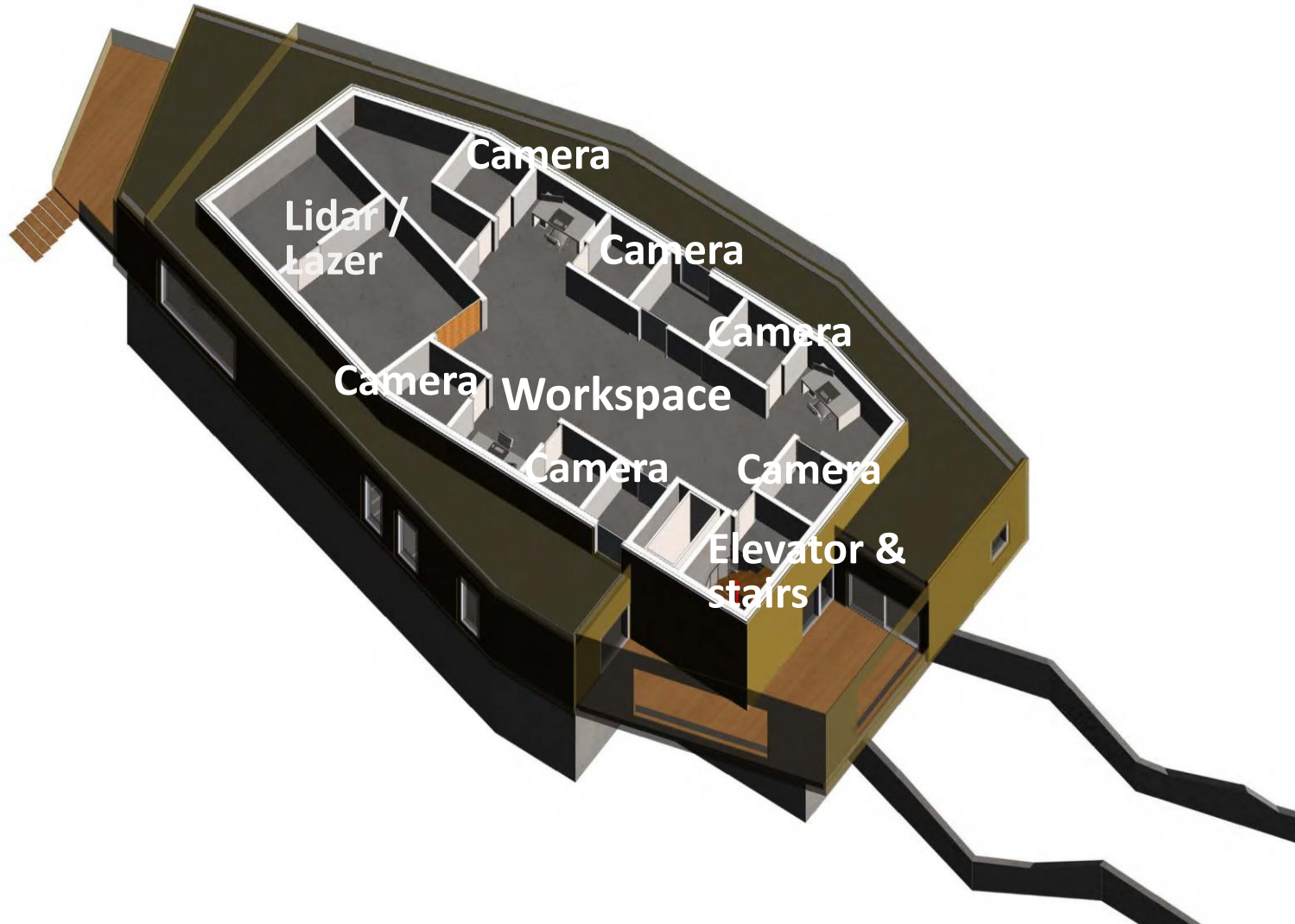


First floor – administration and research



Second floor – aurora observational

equipment



The building – cross section



The hallway – first floor



The meeting room – first floor

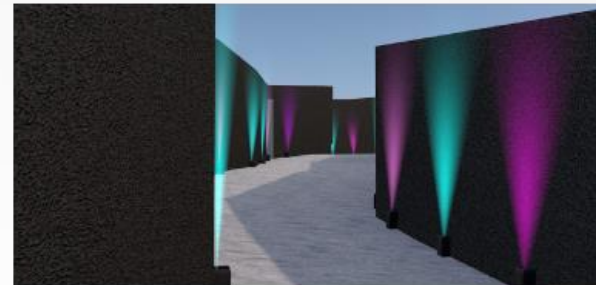
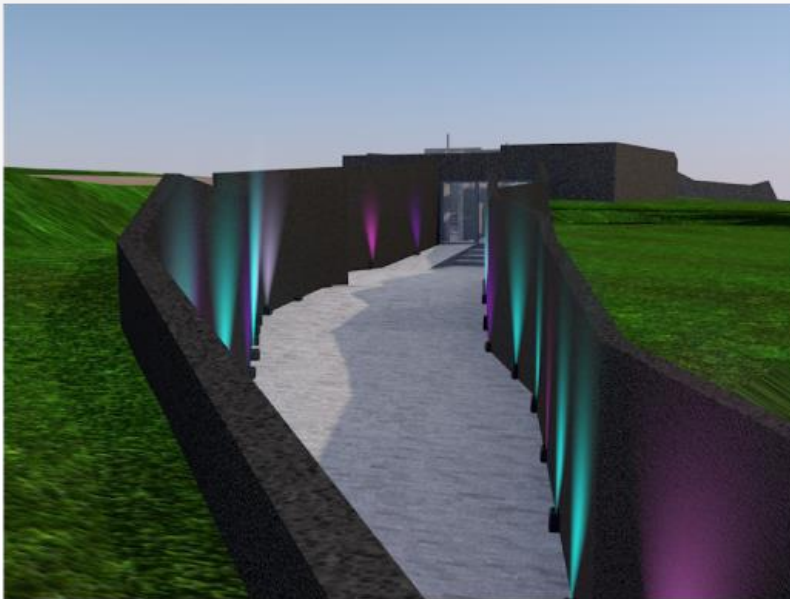


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Outside entrance light installation:

Outside open tunnel entrance would have light installations along the walls in the color spectrum of the northern lights.

The lights would dampen down and light up again randomly and change the colour spectrum to give the feeling of the northern light movement.



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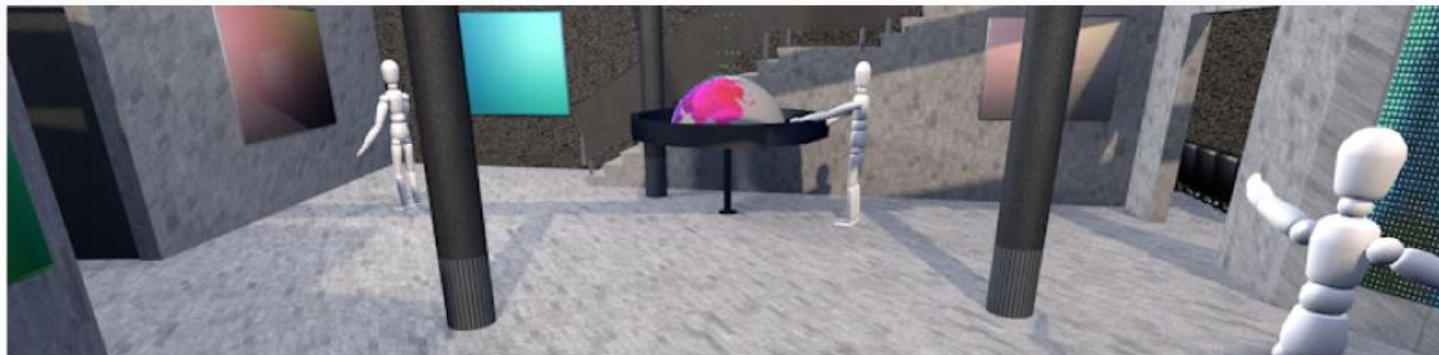
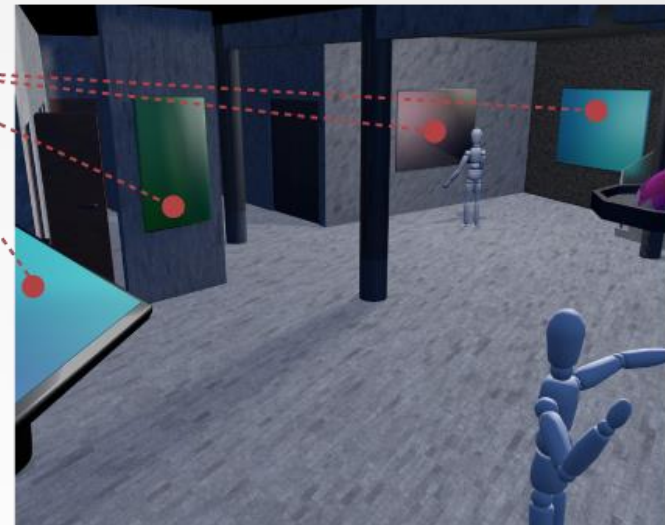
TV screens and infographics

Visual creation:

Time lapse videos: Easy to produce and/or get from designer that have taken time-lapse videos before.

3D videos: Created by JonThor explaining the auroras and the scientific part of it with nice in a visual way.

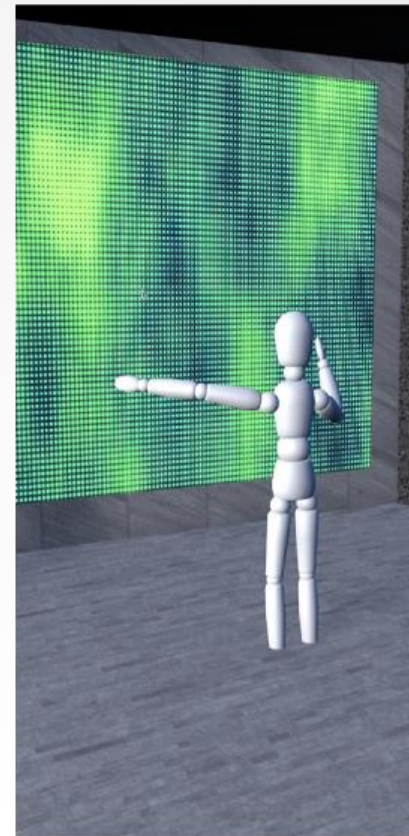
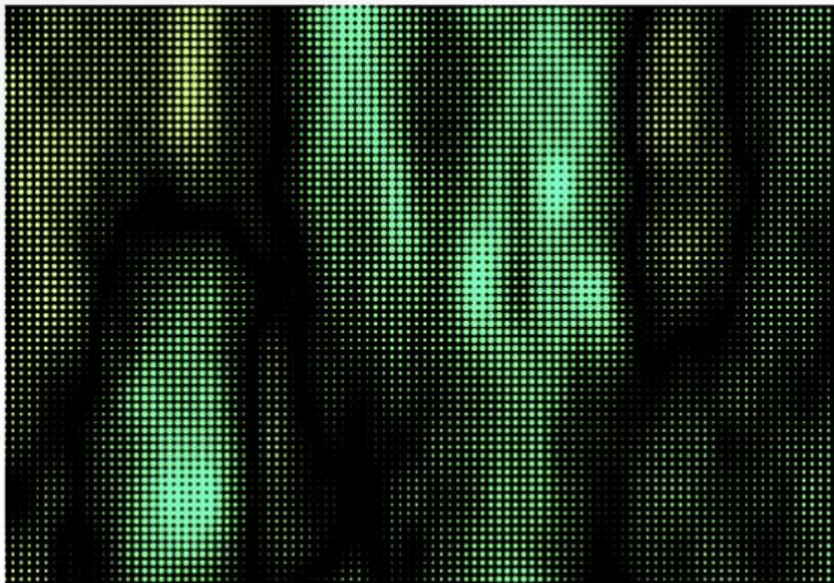
Visual Videos: Videos generated to show the light dancing in the sky projected on surfaces and



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Interactive Projection on Ceiling/Wall:

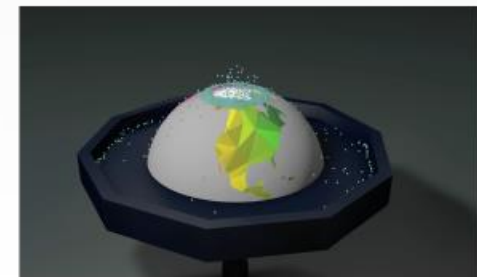
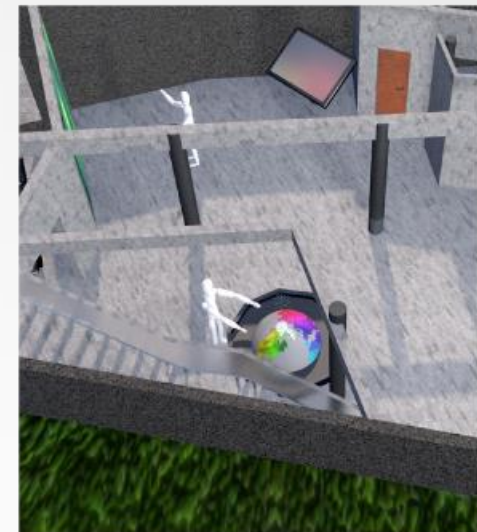
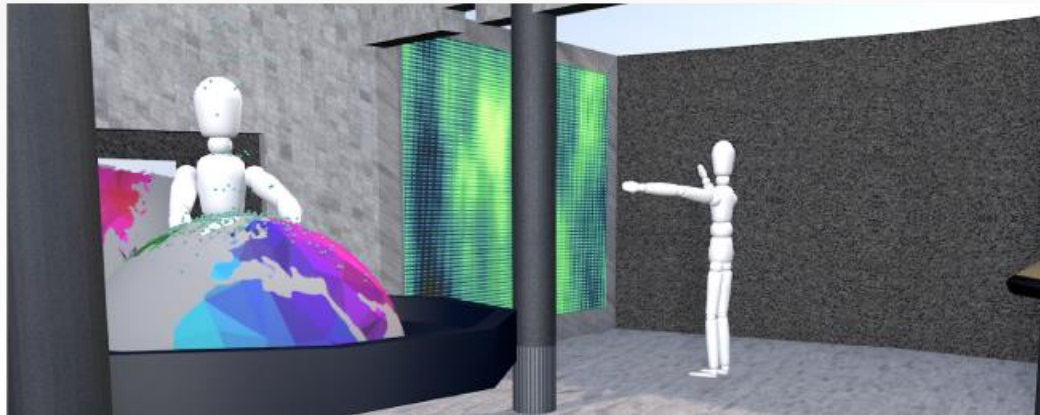
Light visuals generated to have the effect of the northern lights. The visuals would be projected on the ceiling giving it a nice northern light feeling and movement. The user would be able to look up and experience it while examining the other scientific information provided.



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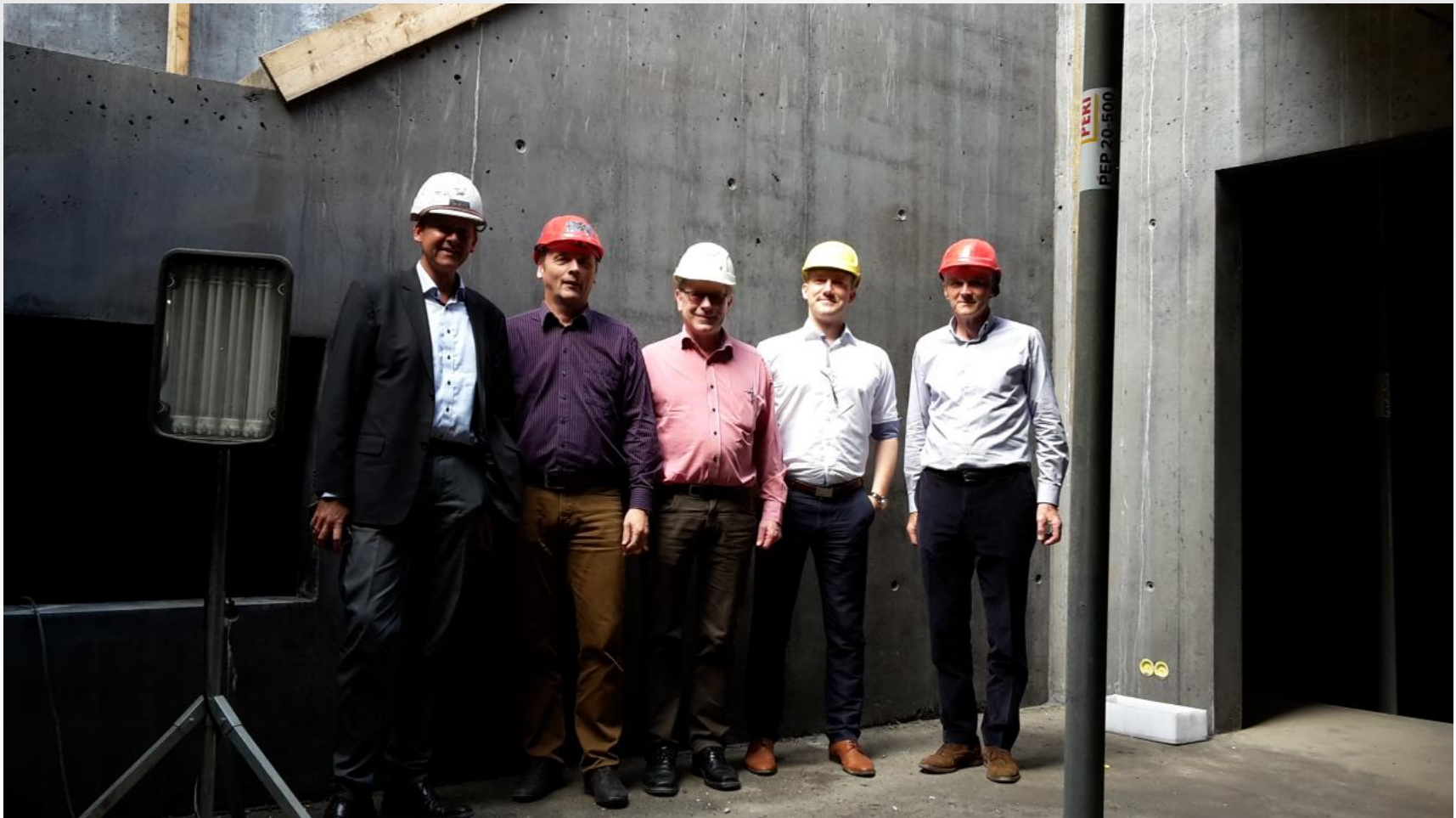
Sand magnetic installation:

Orb representing the earth would have magnets inside on both poles representing the magnetisation of the earth. Black sand found in Iceland is partially magnetised and can be used with the effect of representing the particles that create the northern lights. With this installation the user would be able to create its own Northern lights with coloured sand which would make the user learn from doing and have fun while doing it. The installation is relatively cheap and easy to construct in concept and would give both adults and children a fun aspect of learning about the northern lights.



AURORA – Kárhóll last week

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