

HOW TO BUILD A PARTICLE HUNTER

CMS IS DEEP UNDERGROUND IN A HUGE CAVERN COMPLEX. THE MAIN CAVERN COULD HOLD THE ENTIRE HALF-MILLION POPULATION OF GENEVA (OK NOT COMFORTABLY, BUT ALL SQUEEZED LIKE SARDINES IN A TIN...).



BEFORE DIGGING, THE GROUND AROUND THE SHAFTS HAD TO BE FROZEN WITH LIQUID NITROGEN TO AVOID FLOODING WHEN THE DIGGER REACHED THE WATER TABLE, A LAYER OF WATER 40M UNDERGROUND.



THE SHAFTS AND CAVERNS WERE DUG BY MECHANICAL HAMMERS AND DIGGERS WORKING CONTINUOUSLY FOR 4 YEARS.



CMS IS SPLIT LIKE A PUZZLE INTO 13 HUGE PIECES VERY CAREFULLY LOWERED INTO THE EXPERIMENTAL CAVERN.

THE LARGEST PART IS 2000 TONNES AND 15 METERS TALL AND THE SMALLEST PARTS ARE MICROSCOPIC.

HUNDREDS OF STUDENTS HAVE DONE THEIR RESEARCH PROJECTS ON CMS.



STARTING IN 2007 CMS WILL GENERATE PHYSICS DATA FOR AT LEAST 10 YEARS! WE NEED YOUNG SCIENTISTS. WE NEED YOU!

LINKS:

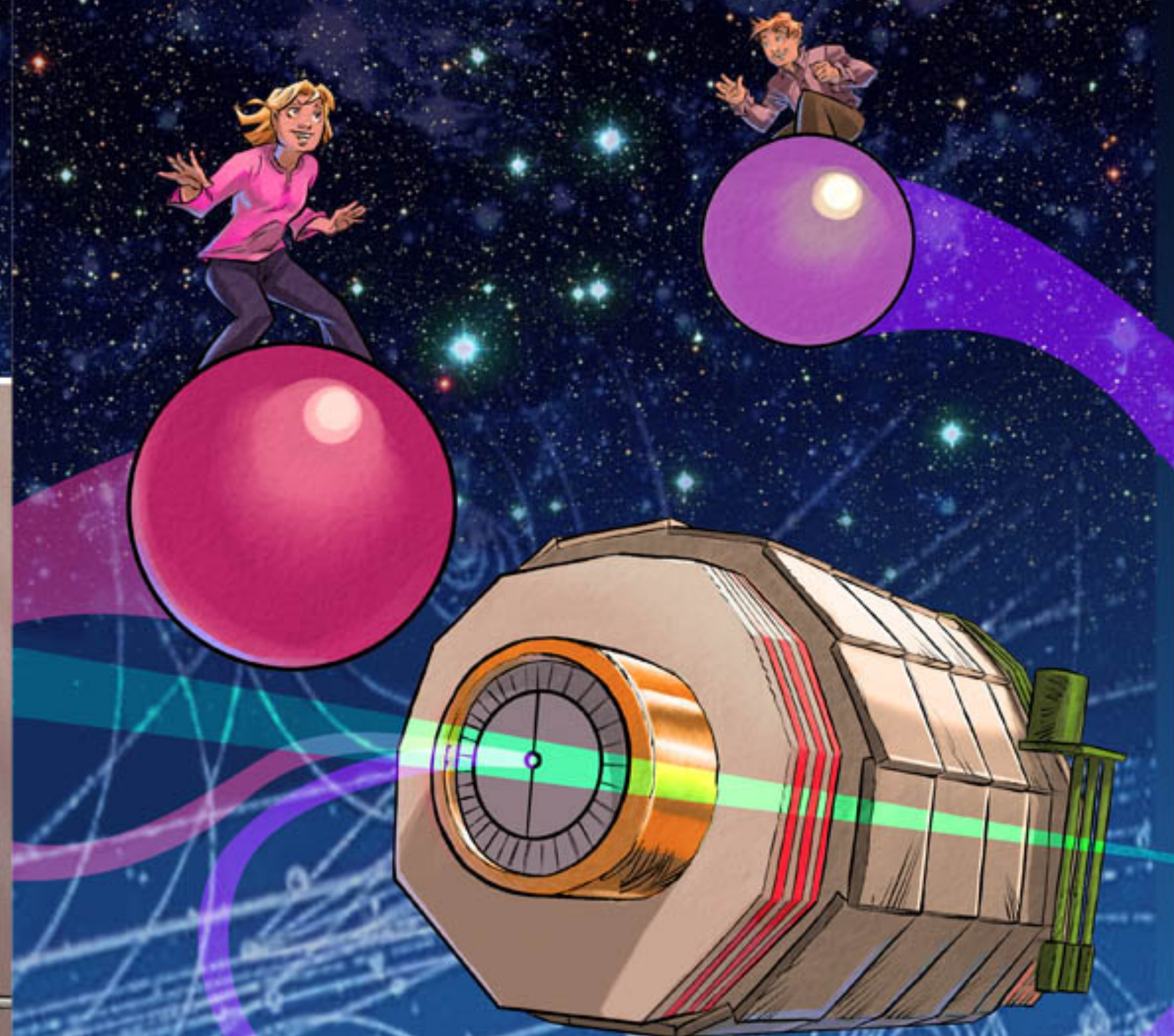
(CERN) [HTTP://WWW.CERN.CH](http://www.cern.ch)
(CMS) [HTTP://CMS.CERN.CH](http://cms.cern.ch)

CREDITS:

TEXTS: ERIC PAILHAREY
ARTWORK AND COLOURS: FREDERIC VIGNAUX
PRODUCTION: MASTER IMAGE
TECHNICAL CONTRIBUTORS: DAVID BARNEY AND ALINE GUEVARA
DIRECTION: KARL GILL
A PROJECT FOR CMS OUTREACH, CERN PRESS OFFICE AND CERN EDUCATION SERVICE.



CMS: PARTICLE HUNTER



JOIN US IN ASKING NATURE THE OLDEST AND DEEPEST QUESTION:
JUST WHAT EXACTLY ARE WE MADE OF?

